



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

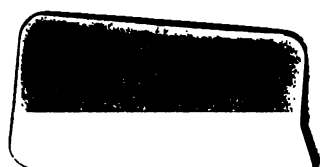
We also ask that you:

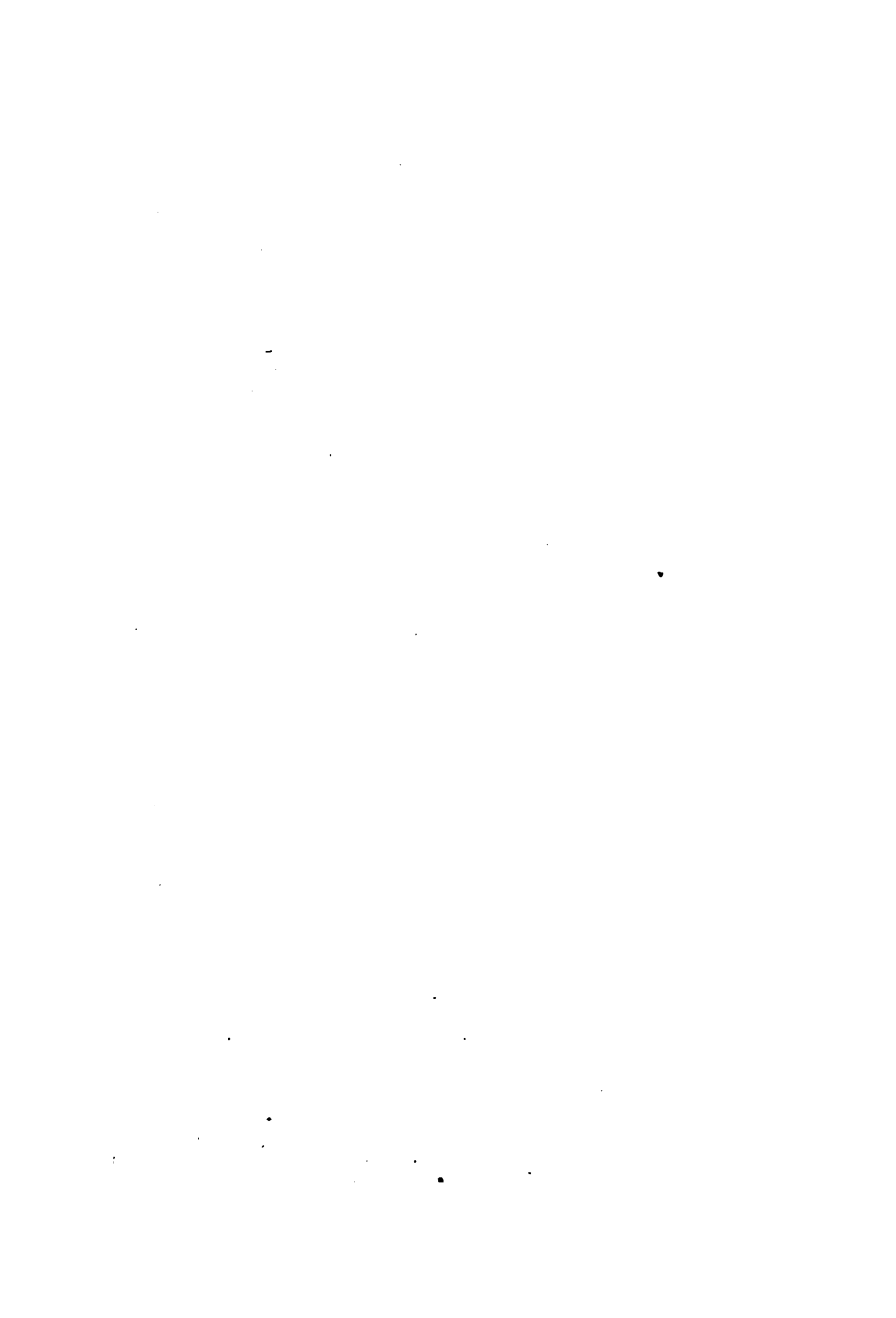
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

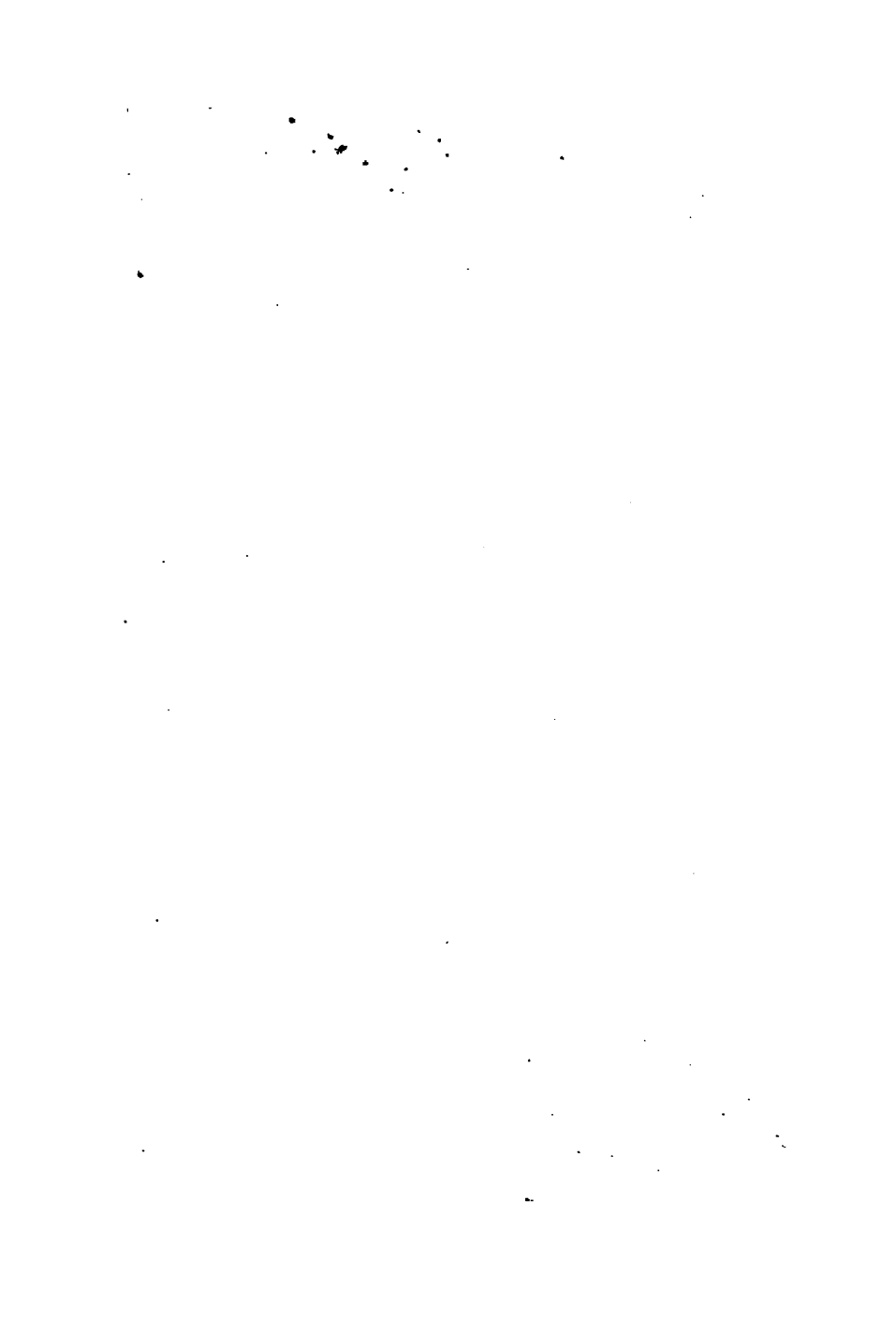
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>











IN DOOR PLANTS.

Published by Smith, Elder & Co. 65, Cornhill, London.

IN-DOOR PLANTS,

AND HOW TO GROW THEM,

FOR THE

DRAWING-ROOM, BALCONY, AND GREENHOUSE:

CONTAINING

CLEAR INSTRUCTIONS BY WHICH LADIES MAY OBTAIN, AT
A SMALL EXPENSE, A CONSTANT SUPPLY OF FLOWERS.

By E. A. MALING.

WITH A FRONTISPIECE.

LONDON:

SMITH, ELDER AND CO., 65, CORNHILL.

M.DCCC.LXI.

~~180.0.28~~

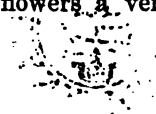
[The right of Translation is reserved.]



PREFACE.

My aim in writing this little book has been to give such plain and practical directions for the cultivation of in-door plants as may enable any lady to choose and grow abundant flowers to adorn her house. And I am the more confident of the sufficiency of the rules here laid down, because they have been tested by myself during some years' practice in rearing and keeping plants.

The sweetness and brightness of flowers and plants are never more delightful than in a crowded city; and even when grown on the smallest scale, they may be so very charming and so perfect in their way, that I think it is only necessary to show how small an expenditure is required, either of time or money, to induce many ladies to begin to grow them. The pursuit is also one in which, even with a very little practice, experience comes so quickly, that a single season may be enough to render the care of flowers a very easy task, even to



those who take it up at first as quite a new employment.

In the following pages will be found a minute description of everything needful for the care of plants, both as to their selection and their arrangement and preservation in perfect health and beauty. I have described not only *what* should be done, but also *how to do it*, knowing that the simplest points of plant-culture are often the worst attended to, merely because it is supposed that "every one knows how to do that;" indeed, I have frequently experienced the disappointment caused by relying upon books that profess to tell one everything and yet leave out the very alphabet by which alone the uninitiated could understand the instructions given.

London,

June 1st, 1861.

CONTENTS.

PREFACE. Page iii.

PART I.

WORK OF EACH SEASON, AND HOW TO DO IT.

CHAPTER I.—INTRODUCTORY. Page 1.

For whom this book is meant.—Small extent generally of ladies' gardens.—Practicability of growing flowers indoors.—Very small cost involved.—Plan for in-door gardening.

CHAPTER II.—SPRING ; SEEDS AND CUTTINGS. Page 6.

1. What to begin with.—2. Seeds for sowing.—3. Preparing the pots.—4. Soil, and how to keep and use it.—5. Pots of seedlings.—6. Giving air and water.—7. Cuttings, of two kinds.—8. To prepare woody cuttings.—9. American mode of treatment.—10. Adapted to vine-growing.—11. Common way of drying cuttings.—12. Putting in the cuttings.—13. Sinking the pots in sand.—14. Cuttings of green shoots.—15. Pots and planting.—16. Air and moisture.—17. Evaporation from the leaves.—18. Moisture of the air required.—19. Signs of mischief to be noted.—20. Drooping and dropping leaves: causes and remedies.—21. Sand and water method.—22. Cutting an extension of the parent plant.

CHAPTER III.—POTTING OFF, WATERING, AND GENERAL TREATMENT. Page 20.

1. Hardening young plants.—2. Preparing pots and pricking out.—3. Number of plants for each pot.—4. How to separate the young plants.—5. Shading and keeping warm.—6. Green fly; remedy against it.—7. Drawing up of

plants.—8. Want of water: water should be tepid.—9. Washing of foliage beneficial.—10. How to preserve the bloom.—11. Airing the sand or moss.—12. Drainage of pots; no water in the saucers.—13. Saucers for baskets; draughts of air so drying.—14. Sticks and trellises for creepers.—15. Watering growing plants.—16. Quantity to give.—17. When water is wanted.—18. Winter watering and summer soaking.—19, 20. Contrivances for plants in windows.

CHAPTER IV.—SUMMER; FLOWERING PLANTS. Page 31.

1. Summer work.—2. Seedling Geraniums.—3. How to make them flower.—4. Treatment of young plants.—5. Checking too luxuriant growth.—6. Schemes tried on *Tacsonias* and Creepers.—7. Plants requiring heat in summer.—8. Primulas to be cool.—9. Watering and syringing.—10. Removing decaying leaves.—11. Recovering plants that have got too dry.—12. Hot-water system for reviving flowers.—13. Keeping flowers in water and charcoal.—14. Basins and dishes with growing moss for cut flowers.—15. Cuttings for winter stock.—16. Cuttings out of doors.—17. Advantages of separate small pots.—18. Treatment of old plants.—19. Air, light, sunshine.—20. Caution as to numbers.

CHAPTER V.—OUT OF DOORS IN SUMMER. Page 41.

1. Places where plants can stand.—2. Greenhouse and reversionary plants.—3. Turf, or gravel, and pincushion beds.—4. Ivy and evergreens.—5. Spring flowers for London gardens.—6. Summer plants.—7. Roses.—8. Soap-suds, lime, &c.—9. Beds of flowers.—10. Borders.—11. Grass.

CHAPTER VI.—AUTUMN AND WINTER; WINTERING PLANTS. Page 51.

1. Keeping plants.—2. Turning out.—3. Scarlet Geraniums.—4. Cuttings to stand over winter.—5. Verbenas.—6. Tender plants.—7. Dryness essential.—8. Seedling *Aнемones* for autumn flowers.—9. Sand in conservatories.—10. Placing plants.—11. Baskets.—12. Water.—13. Plants resting essential.—14. Dead leaves; evaporation.—15. Forcing-case in full action.—16. Hanging plants.

PART II.

MEANS REQUIRED FOR GROWING PLANTS.

CHAPTER I.—HEATED CASES FOR SUPPLYING THE CONSERVATORY OR STANDS. Page 60.

1. Heated case.—2. Rapid succession thus kept up.—3. Exact description and cost.—4. How to use it as conservatory or stove.—5. Ornamental appearance.—6. Cold case.—7. Waltonian case and its price.—8. Inexpensive and easy substitutes.

CHAPTER II.—FLOWER STANDS, &c. Page 66.

1. Kind of stand.—2. Basket work.—3. Sand and moss.—4. Wooden and basket stands.—5. Baskets for hanging.—6. Handles with climbers for large stands.—7. Carved oak and box stands.—8. Zinc lining.—9. Surfacing of moss.—10. Gloves, scissors, &c.—11. Garden pots and pans.—12. Moss, soil, cocoa-nut husks, and sand.

CHAPTER III.—CONSERVATORIES. Page 75.

1. Keeping out frost.—2. Shutters and coverings.—3. Excluding damp.—4. Plants kept in 1860-61 without fire.—5. Thatched frames.—6. Sudden expedients.—7. Plants for a conservatory just kept from frost.—8. Plants for north conservatory.—9. Minton's tiles.—10. Cold house.—11. English house, advantages.—12. Planting out.—13. Advantages and evils of pots.—14. Convenience for moving.—15. Drawing-room conservatory.—16. Morning room, or orangery.—17. Truly valuable plants.—18. Colour of leaf and blossom.—19. Groups of colour and their principles.

CHAPTER IV.—BALCONIES AND HANGING GARDENS.
Page 90.

1. Places for more plants.—2. French bouquets.—3. Plants to grow in this way.—4. Good soil necessary, especially when shallow.—5. Balcony boxes and plants for them.—6. Construction and cost of a very pretty "hanging garden."—7 and 8. Luxuriant foliage and blossoms.

PART III.

IN-DOOR GARDEN CALENDAR.

CHAPTER I.—GENERAL INSTRUCTIONS. Page 98.

1. Evergreens.—2. Advantages of and saving of expense.—3. Names and number of useful kinds.—4. Arrangement: "English houses."—5. Glass cases.—6. Conservatory.—7. and 8. Treatment generally.

CHAPTER II.—PLANTS FOR EACH SEASON. Page 107.

1. December, January, February.—2. March, April, May.—3. June, July, August.—4. September, October, and November.

CHAPTER III.—SPECIAL PLANTS, AND THEIR CULTURE. Page 112.

1. Bulbs, where to get and how to keep them.—2. Planting hyacinths.—3. Bulbs for forcing.—4. Bulbs in dishes.—5. Names of Hyacinths.—6. Tulips.—7. Crocuses.—8. Narcissi.—9. Bulbs in water, sand, or moss.

CHAPTER IV.—SPECIAL PLANTS (*continued*.) Page 120.

1. Achimenes.—2. Gesneras and Gloxinias.—3. Fuchsias.—4. Verbenas.—5. Calceolarias.—6. Ferns and Lycopodiums.—7. Begonias.—8. Anemones.—9. Arum, or Calla *Æthiopica*.—10. *Cyclamen Persicum*.—11. Lilies of the Valley.—12. China Roses.—13. Tree Carnations and Pinks.—14. Primulas.—15. Geraniums.—16. Pelargoniums.—17. Heliotropes.—18. Sweet Verbena or Lemon-plant.—19. Stocks.—20. Chrysanthemums.—21. Tree Mignonette.—22. Hanging baskets, plants, &c.—23. English wild flowers.

SCHEMES FOR FILLING GLASS CASES all the year with plants known to be most successful. Page 135.

PRICED LIST OF PLANTS. Page 139.

LIST OF USEFUL IMPLEMENTS. Page 146.

IN-DOOR PLANTS,

AND

HOW TO GROW THEM.

PART I.

Work of each Season, and how to do it.

CHAPTER I.

INTRODUCTORY.

THIS little manual is chiefly intended for the use of those ladies who, while they are very fond of plants and flowers, are yet obliged either to live in town or to spend many months of every year in London.

I have often remarked that, even in the country, those who best love their plants have generally some very small number under their special care; which small number really represents to them the whole delight afforded by the many acres of lawns and gardens, and the numerous hothouses and conserva-

tories which are entrusted to more scientific hands to manage. Thus, in such houses one often stumbles by accident, in some little detached nook, on a tiny garden, surrounded by roses and tall-grown trees, lamentably bad often for the plants to grow in, but very charming in its owner's eyes, inasmuch as it is a place where she can do no mischief—where her own little fancies can be carried out—where shrubs can be left to grow wild at will, and where wild flowers can be brought in and cherished, without any risk of spoiling the garden proper, or of being interfered with on the plea of their being out of keeping. The same principle is also at work indoors, where we often find a little corner devoted to treasured plants—a window-stand, for instance, or a prettily arranged glass case. All this is a proof of the charm there is in personally superintending plants, and watching each opening bud as the flowers succeed each other; and very strange it seems that this delightful interest should not prevail even yet more in towns. In London, for instance, one would fancy that the presence of plants would generally be thought a boon; and there, where we see so faint a trace of spring, it would be pleasant to be reminded of its approach by seeing our favourite flowers preparing to unfold.

Many people, I know, have an idea that there are insurmountable difficulties and great expenses to be

encountered in growing plants in-doors ; but these hindrances only exist in fancy, and it is surprising to find how easily and how cheaply, after a little practice, a lady can keep her house supplied with a good display of flowers. Many well-sounding and plausible reasons are given, I know, against making such attempts ;—the badness of air, the want of light, of space, or of time, too much smoke, and too great expense. But, although these are great hindrances, they do not make the thing impossible. The bad air and smoke are, indeed, to be guarded against ; but glass, while it excludes the smoke, renders the air both still and moist, and it will not be found difficult to grow the most sensitive and delicate of our plants under its friendly shade. Want of space need hardly be an objection ; for if there be not room for many plants, there may yet be space for some. A greenhouse, also, is not essential, for wherever there is a window looking towards the south, there many plants may easily be reared. We do hear of greenhouses, however, even on the roofs of London houses, and many modern dwellings have something of the kind opening into a drawing-room, or into a little breakfast-room. Glass cases, also, fixed outside windows and on landing-places are useful and very pretty substitutes ; and tables covered with bell-glasses often produce a healthier set of plants than many greenhouses can boast of.

The time required for attending to these pretty things may be to some an obstacle ; but of this, I think, a very exaggerated idea is often entertained. Opening a window, giving a supply of water, and sometimes devoting an hour or two to potting and re-potting, or to planting cuttings and sowing seeds, is generally all the attention which house plants demand ; indeed, one half-hour daily, well employed, would amply suffice for all such gardening duties.

The cost may, at first sight, appear a serious consideration, but it is so only in the case of those who will do nothing cheaply ; and knowing, as I do, by my own experience, what a display of flowering plants may be kept up throughout the year for a sum within twelve pounds, I cannot believe that many persons who really care for flowers will on this account be withheld from having them. Indeed, I fully believe that two pounds, well laid out, would suffice to produce a far more beautiful and tasteful effect than is accomplished for a sum more than ten times larger by the gardener who contracts to furnish relays of flowering plants for the stands of London residents. To those who are fond of flowers, moreover, it is very vexatious, just when they have begun to watch some plant with interest, and to observe its growth, to hear that the man has been to change the plants, and to find that they have lost it ! Plants also adapt themselves

curiously to the places in which they grow, mingling their branches and entwining themselves gracefully together; and turning invariably towards the light, they often thus attain a degree of natural luxuriance and grace which no art could give them.

To those who would adopt this little guide for the management of an in-door garden, I would venture to recommend, that, having first fitted up any space they have for flowers with the evergreens required for its permanent decoration, they should note down the plants they wish to grow each month; varying, of course, the kind and number chosen, according to the amount of room, and to the means of providing the requisite heat and light, which they have at their disposal. It is important to have some such fixed plan, in order that the plants may be in harmony with each other and form a well-assorted group, and also that the lady gardener may not be liable to find herself at one time overstocked with favourite plants in blossom, and at another time in a state of comparative destitution.

In the list of plants will be found all necessary hints as to the special treatment required by each kind in particular; while the general instructions as to the various processes of potting, sowing, &c, are given in another chapter for all kinds in common.

The success of the whole arrangement, whether as regards conservatory, miniature greenhouse, plant-

stand, or hanging-garden, depends so much, however, upon the solid background of green foliage which is at first provided, that I must specially beg attention to the instructions given at the commencement of the In-door Calendar as absolutely necessary for the attainment of this object.

S P R I N G .

CHAPTER II.

SEEDS AND CUTTINGS.

1. MARCH and April are very busy months. The first thing to see to is planting cuttings and sowing seeds; and, for these, the hot-water case, whether on the Waltonian plan or mine, is the best thing, at first, for starting them. For a beginning, let me strongly advise a few pots of good old-fashioned plants—well-known and approved shrubs and flowers; when these are good and flourishing, it will be time enough to seek after newer flowers: and it should be always remembered that a prudent gardener, so far from despising old plants, acknowledges that it is only by their known good qualities

that they have held their own so long against all new-comers.

2. For sowing in March and April, as it is better, perhaps, to name a few examples, I would recommend particularly the following kinds of seeds:—

Nemophila insignis (blue).

Nemophila maculata (white, with dark blotch).

Dwarf German, Ten Weeks', and Emperor Stock.

Large-flowered Mignonette.

Smith's camellia-flowered Balsam.

Sweet Peas.

Common dark Nasturtium.

Common dwarf Nasturtium (Tom Thumb).

Perpetual Carnations (that is, the tree kind).

Primula (*Sinensis*).

Cobæa scandens (a quick climber).

Ipomea rubra cerulea (climber).

Phlox Drummondi (various colours, dwarf, very pretty).

Tropæolum canariensis (Canary-bird Flower).

Cupheas, Pansies, Auriculas, and Mimulus may be also raised; and German Asters are useful in the autumn months.

3. For these seeds it is only necessary to take pots filled about half-way up with bits of broken pots or charcoal. Charcoal is not only far the lightest but much the best thing also for the plants themselves. Then fill up the pots to about an inch

from the top with light good soil ; carefully examining it for the detection of grubs, wireworms, woodlice, and common worms, all of which are enemies to the seedlings. Press the soil slightly down, smoothing the surface with a flat piece of wood, and very thinly scattering the small seeds over it ; or placing the larger ones separately, about a half-inch apart, upon the surface. The very small seeds may be just dusted with sandy soil, and the larger ones covered nearly half an inch.

4. For the soil, I have always a supply of peat and good vegetable mould sent in from a nursery. This should be kept in some shed or out of the way cellar until wanted, when it may be either used as it is, or mixed with a little sand, if poorer soil happens to be required. Cocoa-nut refuse, which is the dusty outside fragments of the husks, all of a fibry substance, is very valuable for mixing with or covering the soil ; it may always be had in any quantity at the cocoa-nut fibre manufactory at Kingston-upon-Thames, but it must be fetched from thence. The soil should be kept under cover, so that, when wanted, it is dry. My own way is to have a large panful (or a wheelbarrowful, if it is a great potting-day), and then a small quantity of water being poured into the middle of the heap, the dry soil is worked in with the trowel till all is *moist*, but not any of it *wet*. That which is scattered upon the seeds may

be used quite dry and mixed with sand ; it must be then carefully smoothed and pressed down with a little flat piece of wood .

Now, these pots, and any of tender cuttings likewise (all, as a general rule, having the soil prepared in the same manner), should not be once watered over head from the day they are put in till the day that they are potted out at last. The pots should be, as far as may be, of a size, and be sunk in moist sand, being packed in it up to their rims.

5. As to the size of pots for ladies' gardening, 32's and 48's (which are about four and five inches in diameter respectively) are certainly the best. If the earth in pots of such sizes does become too dry, the sand in which they stand may be watered ; but not, if possible to help it, the earth in the pots themselves.

6. The seeds will mostly germinate in a few days' time, and will then want a little air night and morning, before they are ready to prick out ; the frame or the window should be opened, therefore, a few inches daily.

To prevent the soil in the pots becoming dry, it is a good plan to have a piece of glass placed over the top of each pot, which need not be removed until the seedlings begin to appear. If watering be needed before the seedlings at all begin to show, it is sometimes a good plan to place a bunch of moss

or wool upon the surface of the soil, and to pour the water upon that; as the water passes gently through the moss or wool, and the sand or soil covering the seeds is not washed away.

After seedlings appear, it is far better to pour the water against the side of the pot, holding the spout close upon it, and gently flooding the whole surface. Strange as it seems, this is far the safest plan.

7. And now as to cuttings. Generally speaking, the sort of plants that are best to cultivate will grow most of them in either of two ways—from woody pieces, which may strike root even without heat, or from young green shoots kept moist and warm. By the first mode they are almost sure to grow: it seems to me, in fact, that it would require some ingenuity to *prevent* their doing so; but they grow very slowly, sometimes taking a long time before starting, and are continually passed by the little green slips put in three months later. Still it is a useful way to know, both for the security afforded by it, and because at any time that one chances to cut down or break down an old plant, one can always use the hard woody stems, and hope to see them shooting out some day, when, perhaps, the nice green little shoots may have all died away.

Put such cuttings in the first year, at least; and as many as can be obtained. In spring, indeed,

there will not be many to be had, except from an unfortunately-broken or cut-down plant.

8. For these woody cuttings, then, at any time of year, take, for example, a branch of *Fuchsia* or of *Geranium* (*Pelargonium*, I should say), a hard old stem of *Myrtle*, of *Heliotrope*, of sweet *Verbena*, or *Lemon plant* (*Aloysia citriodora*), *Deutzia gracilis*, or, in fact, of any desirable plant with which one has a fancy to try one's skill; the course to pursue, according to the first mode, would be this:—

Consider, first, into how many cuttings the branch can be made. Count the number of joints it has; a joint being the slight thickening of the branch at the place whence leaves or lesser branches proceed from it. Of each of these joints a cutting may be made, by cutting straight through the branch with a sharp knife, an inch above and through or below the joint, and being careful not to bruise or tear it; but for cuttings to become more quickly plants of some size, I rather prefer making a cutting which shall include two joints, the top one to make fresh shoots, and the lower one to be buried in the soil, to produce roots. Often a little hard old branch, scarcely longer than two inches, will have two or three short little cut back spurs, which make small, but remarkably good cuttings.

9. Taking these pieces of branch as they are cut, there are two ways of proceeding. The first is an

American discovery, and is a very efficient mode. They lay a set of these woody cuttings, either amongst slightly damped moss, or else in a wide-mouthed bottle with a piece of damp sponge at the bottom of it; the cuttings being dropped lightly in, are left for ten days or a fortnight in a cool, airy place. A piece of muslin should be tied over the bottle, to exclude dust and insects, but allowing air to enter.

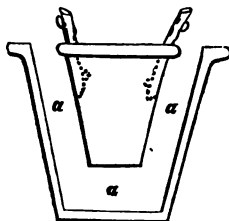
I believe there is some "granulating" process that takes place, as in a healing wound, and when what gardeners term a "slight callus" is formed, the cuttings are all but safe, and put out healthy roots directly they are potted. A heap of dampish moss or cocoa-nut fibre does as well as the bottle plan, only the air must not be quite excluded, and no chance must be allowed of mouldiness.

10. In vine culture this is considered a great discovery: like so many other hits, it was, as it were, an accident. It was curious, that all the grape cuttings that came from abroad should grow! The voyage seemed to improve their health. And so some one thought of trying the same system of packing; minus the sea air, which was found to be altogether immaterial.

11. However, there is no harm in trying the old practice also, merely laying the cuttings for an hour or two in a dry, shady place, on a bench or table, and then planting them.

12. In whichever way the cuttings are prepared, the process of potting is, in itself, the same : dibble a little hole close up against the side of a flowerpot ; hold the cutting in it, keeping it against the side, and then gently, but firmly, with the little stick or ivory pen-holder used to dibble with, press the soil carefully to the cutting, minding that the hole is really well filled up. These cuttings may be planted all round the pot, not more than an inch apart, and nearly as deep as the second joint. Any leaves, I take for granted, will have been snapped off—not torn, but cut off, so as to leave just the footstalk, till it naturally dries up and falls.

13. The pots thus filled with cuttings must all be sunk, either in sand or moss, or some sort of surrounding. A second pot filled with sand or dry sawdust, or a box filled in the same way, would do well. No one knows how many cuttings are wasted, and nice plants killed, by heat striking on, or evaporation proceeding from the pots, and thus drying the young rootlets. The annexed cut shows the best



mode of plunging the pot of cuttings within another pot of a larger size : *a, a, a*, shows the space to be filled with sand, or moss, and to be kept wetted.

Sawdust is bad for a plunging material, if to be wet, it being liable to become mouldy.

If the pots are not to be sunk, small sixties should be used, with one cutting in the middle of each pot; but the woody cuttings pack in closely and well after the other fashion.

So much for the hardiest sort of cuttings—of plants that will do well in a spare room window, or on a back shelf in the greenhouse, that do not need shading, and which, in the months between June and October, will root even in the open air, if placed anywhere out of the hot glare of sunshine, and will keep through the winter in any tolerably dry corner.

14. And now for the green, quick-growing, especially spring-struck cuttings.

With these the mode of proceeding must be quite different. An old Geranium, covered with fresh shoots; a Fuchsia, sprouting out in shoots an inch long, all over; Sweet Verbena and Heliotrope the same; young shoots, too, of Myrtles, and of Begonias; all come under the division of soft-wooded plants. Of Calceolarias, Verbenas, and Lobelias, as well as of Carnations, Roses, and Pansies, I will speak hereafter.

Now with these young shoots, just slipped, not cut off from the stem, the treatment must be quite different. With these, the grand secret is, *never*

to let them flag. Do not try to "form calluses," or let the cuttings dry.

15. The pots should be all ready, filled with soil that has stood in the sun a little while or in the greenhouse, so that it may not chill them too much. In repotting any tender things, and watering them, chills are quite as bad for plants as they are for human beings. It is important to remember that fact.

One cutting may be put in a pot alone, to save the potting out; and for a beginner, perhaps, that is the safest mode; otherwise six, or eight, or even ten may be inserted as before, round the side of a four or five-inch pot. Where the leaves are larger, even though the lower ones are removed (leaving a bit of footstalk always), I think the middle of a small sixty best.

Dibble them in, and plunge the pots as directed for the hard-wooded cuttings; but the sand or moss need not be very moist, as the soil in the pot is not at present dry. The use of a bell-glass would keep all warm and moist; but the need of air giving must never be quite forgotten.

16. It is necessary to watch sharply for the appearance of yellow or decaying leaves, for any spot of mildew, and for footstalks, ready to be taken gently off when loose. The cuttings must have air admitted every night and morning, and should be

shaded from sunshine ; and now and then be bedewed with water from the smallest syringe, or from a brush just dipped in water and shaken very gently over them : this should be done very carefully, and it is best to try one or two pots first, when, if any sign appears of mildew, you may depend upon it they are damp enough without. I do not myself like the plan much, but think that keeping the sand or moss around them moist answers much better, and is very much safer.

17. But another and opposite danger must be carefully avoided, namely—over-evaporation, which, if it takes place from the leaves and stems, dries up the plants and kills them. To prevent this, exclude dry air, to a certain extent ; but if the atmosphere becomes a perpetual vapour bath, the leaves will decay, become mildewed, and *damp off*, as the gardener terms it : a phrase emphatically describing both the cause and the effect.

18. Heat and air, however, being provided, a large amount of moisture in the atmosphere can be borne by the cuttings, because under these circumstances their growth is generally proceeding fast. I think, also, that by observing and counteracting a very few bad symptoms, it is always possible to avoid much mischief. When I turned gardener first, my most lucid instruction as to watering was to water my plants when they needed it, and “to look to them to tell me

when." That may hold good with old plants, but is very far from being applicable to cuttings. Perceiving, for instance, limp, hanging leaves, I supposed they needed moisture, whilst, in reality, they had far too much at the roots, and really only required a little sprinkling overhead, or a damper air.

19. The young green shoot cuttings must be closely watched, and they should never be watered overhead when the soil in the pot is dry; the root moisture always requiring to be first supplied. If the leaves seem limp and hanging, notice whether they have little drops of water standing about them—whether any part of the leaf or stalk has turned a little brown—and whether the other parts of the cutting still look healthy. Bright, fresh-looking, crisp-standing leaves of the usual colour, according to the sort of plant, are invariable signs that so far all is well. If, then, the plant is all right, I should be disposed very gently to cut off the flagging leaf: it may be that you have left too many leaves, and so the plant shows its inability to supply them all with sap. Watching them pretty closely, they cannot come to much harm in this way; and the more leaves a cutting will bear without their flagging, the quicker will it grow, as the leaves feed the plant. At the least sign of that brown decay I always take off the leaf at once, and give, generally, more air.

20. Sometimes, as in sweet Verbenas, for instance,

the leaves just let go, as it were, and quietly drop down; this is generally, I think, from want of air, or from having it too moist: when they turn yellow, it is from the air being too dry. For this plant, it is well to try experiments till you discover what does suit it: it is well worth a little trouble, and may with care, be kept in very great freshness, covered with its delightfully-scented leaves, and allowing of almost incessant gathering.

In other cases, the heads of cuttings may be hanging down, while the lower leaves look fresh and growing; there is no need, then, for misgivings, as the chances are that the cuttings will be all vigorous to-morrow: especially if you moisten a little the sand outside the pot, and do not let them be in too strong a light. Cuttings of scarlet geraniums, and such spongy sorts, are greatly given thus to droop their heads; and should there be sometimes a yellow leaf or two, the soil looking at the same time dry and the cuttings a little parched, then, in spite of all my rules, they must have a little water: for geraniums show directly by their yellow leaves if they remain one day unwatered when they really are too dry.

For all these soft-wooded cuttings either a heated case is needed, or they should be placed on a greenhouse shelf, or even on a chimney-piece, under small bell-glasses.

21. For *Verbenas*, *Calceolarias*, *Pansies*, *Heliotropes*, and *Chrysanthemums*, shallow pans are suitable: indeed, common saucers answer perfectly. Put in them silver sand an inch deep, or less, and pour in water enough to make a thin sheet of it above the sand; cut off the lower leaves, and stick the stalks of the little inch-long tops of the young shoots well down into the sand. They are the better for some sort of shade and heat, if it be only the warmth of a chimney-piece; or they may be put over a basin of hot water, refilled twice a day, with a glass for shade, or with a rolled-up cover of tissue paper, in the absence of any proper propagating case. Before the water in which they are grown has dried up, they will be almost all of them beautiful little rooted plants, ready to be put in small pots full of light, good soil; and their own tops will furnish, if wanted, a second set of cuttings. I have tried *Begonias* and *Balsams* in this way, and both, I fancy, will very generally succeed. *Begonias* also grow most rapidly in a layer of cocoa-nut refuse on a little soil, in a double pot kept full of moist sand.

22. The cutting being "an extension of the parent plant" it is a golden rule to know that the circumstances of the latter must be considered and carried out in trying to rear the young plants raised from it. If, therefore, the old plant has been forced, to cause it to send out shoots, these shoots must have a proportionately warm place.

Hard-wooded cuttings will do with scarcely any heat or moisture, in a half-stagnant, slowly-growing way, while young shoots would be ruined if once suffered to get dry.

Cuttings taken from the tips of the branches will, in many cases, make sturdy little bushes, even though the usual growth of the plant is straggling.

This is a very important rule to recollect. Such naturally straggling plants also require to be kept in rather smaller pots; indeed, generally speaking, the smaller the pot may be (in reason) the more abundant and the earlier is the blossom of the plant, its strength and sap not being expended in the production of roots and leaves.

CHAPTER III.

POTTING OFF, WATERING, AND GENERAL TREATMENT.

1. WHEN the little seedlings and freshly-struck cuttings have made their first start, and have gradually been accustomed to a little more air and light, by the glass being constantly longer left a little open and gradually more open, the time approaches for their being put into separate small pots. Where any

peculiar treatment is required, I will name it under the head of the flowers it refers to ; but, in a general way, it is safe to proceed thus.

2. Take small pots (large sixties or small sixties, as the case may be) and putting into each a small piece or two of charcoal about the size of a walnut, fill up the pot nearly to the brim with *warm*, moist soil, much the same in quality as that used before for the seeds. With the little dibble make some tiny holes, full big enough, however, for the roots that may be formed, and then, with an old teaspoon (which is the best implement) or an ivory dibble, raise the little seedlings one by one, and, putting each into its proper hole, gently press in the earth around it.

3. Put four seedlings in each pot ; unless it is specially desirable, as with balsams, to pot them separately. In the case of cuttings, one is enough ; as being single, risk and anxiety are avoided, when the time comes for moving them to a larger pot.

4. The cuttings I generally slip out of the pot in a ball, by laying the pot on its side, and pressing through the little drainage hole the end of my useful little ivory stick (a pen-holder, in fact), which causes the mould to slide out in an unbroken mass.

Separate the cuttings very gently, retaining all the soil possible about their roots, and put them singly

into the pots already prepared, as for seedlings, to receive them; but never fill any pot whatever up to the very brim with soil.

5. Replace them, for a week or two, in the case where they were before, keeping it a little closer and a little shadier for the first few days.

6. There may come an enemy in the shape of green fly, which may be extirpated by using "Dumont's Insect Powder," sold in little gutta-percha balls. By pressing the ball with the hand, when the plants are dry, the powder may be dusted rather thickly over the part of the plant on which the green fly appears; and thus treated, I think I can promise a perfect clearance of the insects within three or four hours after the application.

One of these balls has lasted me for a year, and my plants are entirely free from blight; every sort of insect appears to have been utterly destroyed, without the slightest unpleasant smell or any disfigurement of the leaves, and without any injury to animals or birds that may be about the room.

7. There are a few other points needful to mention. Sometimes a set of seedlings will begin running up very tall and weakly. Generally, this is a sign that they are too crowded, and thus overshadow each other; or that they are too hot; or that too little light and air are admitted, and that they are, therefore, making efforts to reach the light. Any

such wrongdoings must, according to the cause, be remedied, as before described.

This reminds me to speak of plants that are getting one-sided; or, rather, of plants that we want *not* to get so, but to shoot out equally from each side. These should be kept in a light directly coming from above them; the plants never being let to grow wrongly: they should be turned daily, so that each side may receive an equal amount of light.

8. According as the young plants have few or many leaves, will they want much or little water; and it is astonishing, when a plant is in flower, the quantity that it drinks. It is rather essential here to remember never to give the water quite cold, but tepid; a very little hot water will serve to take off the chill, and rain-water is by far the best to use.

9. For old plants—of established growth I mean—nothing helps to keep them in health more than washing! Geraniums, and Myrtles, and Orange-trees will look beautifully fresh and glossy after all their leaves have been carefully sponged over. All through the summer, this can hardly be done too often. Having a large pan or basin with a little rain-water in it, the plant should be leaned gently over, and, with a large paint-brush or a small piece of very wet soft sponge, every leaf and stem should be thoroughly washed over, underneath as well as

above. Afterwards, I think, a general syringing with some clean water sometimes does still more to improve the brightness of the leaves. Scarlet Geraniums, and the ivy-leaved ones, are well worth doing often; and so, of all plants, are Myrtles. The thicker and more leathery the leaves, the more do they seem to benefit by this washing. The Roses, too, rejoice in it; as do Camellias and Azaleas; while to Cactuses, when growing, it is almost life. The delightful perfume of the wet Geraniums and Myrtles will repay the trouble!

For the more delicate-leaved plants, I think a very fine syringe or a brush shaken over them is the best; but, as a general rule, the water should never, in any case, touch the flowers: it stains them, almost invariably.

10. To prolong the blooming of plants, every fading flower, even if it is but one in a cluster, should instantly be cut off. To keep the flowers of Azalias from falling, it is a successful plan to drop a single drop of strong gum water underneath the flower where it sinks into the calix. For the greater beauty, as well as for the health of the plant, every leaf beginning to turn yellow should be cut off at once.

11. The sand or moss in which the plants stand should never be made very wet, even though kept moist; and every now and then it is well to turn it

out in a heap in the open air, there to remain until thoroughly dry; it can be moistened again before returning it to the stand.

12. No flowers should be left with water standing in the saucers, unless this is particularly directed, as in cases of some almost aquatic plants; and where the plants are sunk in boxes or in outer pots, there is no need for using saucers, which are always so apt to get full of the water, which drains from the pots.

13. The only place where I advocate the use of saucers, is in the suspended baskets; the pot itself being wrapped up in moss or some sort of covering, the saucer also hidden, then serves to secure for it a permanent supply of moisture. The current of air, in which these pots often hang, causes them to require a more abundant supply of water than is needed by other plants. Untidy, straggling plants are always unsightly; but sticks are scarcely much less so. Well-grown plants can generally stand alone, or with a very short and nearly imperceptible support; the old dried stems of fuchsia trees, or of well-dried hazel, retaining their bark, being far the best and neatest.

14. For creepers a very slender hazel trellis is particularly light and pretty, and it possesses this great advantage, that with a set of short sticks cut to the proper length and a little store of copper wire or twine, the trellis can gradually be added to according to the wants of the plant supported, by binding

it up, step by step, as the plant extends, and thus avoiding the ugliness of an uncovered frame.

These creepers are very suitable for the ends of plant cases, and may be useful on a large scale to shut out unsightly objects visible from back drawing-room windows; for this latter purpose they should be either in the window or in a hanging-garden outside, which may be covered with glass or not, according to circumstances. The plants may very well face the window, and be green on that side, getting from above a considerable amount of light. The German and Russian kind of ivy, being exceedingly delicate and quick-growing and never attacked by insects, would be well adapted for the purpose of a leafy screen. While writing this I have found that it is really an *Ipomea hederæfolia*, not an ivy; it therefore grows rapidly by seeds and cuttings, which, I hope, may lead to its rapid introduction into English rooms and gardens.

15. Watering plants is one of the greatest troubles to all beginners. The general and especial rules given for its performance make them feel that a trifling neglect as to the time or manner of giving, or as to the quantity, may be ruin to their plants, and that it is next to impossible really to administer water rightly; giving too much and giving too little being threatened with almost equal penalties. I do not know how far it is possible to make

up by explanation for want of practice, but I do not see that it need in any way be difficult, with a little care, to learn how to give water judiciously. It is an almost universal rule in watering plants to do it thoroughly each time it is done. A very small quantity merely damps the surface, and stimulates the surface roots, which are often the most tender; then the heat of the sun, or the usual evaporation, dries them up and injures them more than if they had not been watered. To allow water to stand in saucers is objectionable, except for *Calla Æthiopica* (or Arum Lilies) and such like semi-aquatic plants, as the lower roots kept constantly and excessively wet become liable to decay. Perhaps the safest general rule (subject to special directions as to the winter season or to resting plants) is to water plants always once a day, when they are growing or flowering; abstaining from doing so, however, in any case where you find the soil in the pot already moist, and repeating it a second or even a third time on very hot days, if the soil seems dry and the plants begin to flag.

16. I think it answers well, if the drainage is quite good and the soil rather light, to supply water till a few drops begin to run through the bottom of the pot. This rule is not certain, however, because sometimes the soil has become so very dry that the water passes down between the pot and the hard ball of soil formed by the matted roots, scarcely

moistening even the outside of that mass. Lately I watered the same plant five or six times, the water filling the saucer it stood in, without penetrating to the roots. In such a case, let the pot stand just up to a level with the surface of the earth (not over it), in a pan of water, for perhaps ten minutes, till the earth be well wet through. Or small holes may be made with a knitting-needle in the soil, and filled with water. This ought not, however, to be a frequent trouble, if the pots stand in damp sand or moss. Even in winter, when *wet* sand is objectionable, I only let the sand get a little dried, keeping the pots still in it; and sometimes, by way of watering, damping the inch of sand next the floor they stand on.

17. The appearance of flagging is not to be admitted invariably as a call for water. If the soil is not absolutely dry, the cause would probably be rather in the heat and dryness of the surrounding air; and as we all know, to water a plant in sunshine *causes* it to flag. In these cases, shading, or slightly damping the floor on which the plants stand, so as to cause a little steam to rise, is the most likely treatment to reinvigorate the plants. The principle is that there must be a fair balance between the moisture supplied by the root and the evaporation going on from the leaves. During the plant's half dormant time, if a sudden stimulus occurs—such as a sudden

sunny day in winter succeeding a frost—shading and even sprinkling the leaves is the only safe treatment; but even then, extra water at the roots would be injurious.

18. In winter, when water is needed, it should be given about ten o'clock, and while the sun is shining. I always venture on watering my plant cases and greenhouse in sunshine, nearly closing them afterwards for a little time, till the foliage has enjoyed its vapour-bath. The rapid drying, however, of the soil in summer requires a much more frequent soaking; for it should be remembered that plants in the ground have a deep supply of moisture on which to draw, the soil seldom being dry beyond a few inches deep, whilst plants in pots, however well attended to, have their supply to a far less extent.

A thorough soaking every morning and evening in hot, bright weather, is not at all too much to give to pot plants to preserve them thoroughly green and fresh.

19. For the encouragement of those who have no accommodation for plants beyond a staircase or parlour window sill, and perhaps a corner of a chimney-piece, I may here remark that even, in such cases, they need, by no means, be deprived of flowers; some of the very nicest plants I have ever seen for windows having been possessed by those who could give them no better home.

Where boxes for plunging cannot be had, a second flower-pot, a size larger, and filled with moss or sand, will answer every purpose.

20. Where there are no special arrangements for striking cuttings, a tumbler or a broken wine-glass over the pot or pan in a warm chimney-corner or a shady window-ledge in a living-room, will, for Myrtle, Fuchsia, and Geranium cuttings be as effective as a glass case; care, however, being taken to keep the glass very often a little raised on one side to admit air. In instances like these, where the plants are few, they are often very thriving, so much care being concentrated upon them. I remember seeing, two years ago, a most vigorous stock both of cuttings and tender seedlings growing in an old box, heated by two common stone bottles full of hot water placed at one end, and covered with a piece of glazed calico tacked upon a slight frame, or hooked to the edge of the box by little nails and rings. A pane of glass laid over the box would answer even better.

Such a humble contrivance answers all slight hot-bed purposes, and many most healthy plants have been thus raised. The temperature in which plants are grown should always be greater by day than by night. The bottle or bottles, filled at night, cause the soil to retain some heat until next morning, and on a sunny day the little box becomes very warm and steamy; often requiring, like more pretentious

structures, a little opening for the admission of air. In windows, such as I have supposed, Myrtles, Geraniums, Heliotropes, and Fuchsias are the most appropriate plants, as they will readily strike at any time in this way.

S U M M E R .

CHAPTER IV.

FLOWERING PLANTS.

1. THE summer's work is of a very pleasant kind; it consists for the most part in arranging the plants which are now in flower, shading them, and taking away every fading blossom, watering them also continually, and being rewarded by the exquisite fresh scent which the watering makes them give.

In summer, too, it is interesting to watch how the seedlings flower; and great is the delight when a treasure is discovered—a fringed Geranium, possibly, or perhaps a perfectly snow-white one.

2. It is a pleasant amusement for lady gardeners to sow Geranium seed in the hope some day of raising a real prize flower; for whether they succeed or not in that it is at any rate a very interesting experiment to try: the little plants are from

the very first so pretty, and their leaves so sweet, that I cannot but recommend the trial to any one who has room. It is necessary to be extremely particular about the seeds, however, as geranium seeds vary exceedingly in goodness; some sold in sealed packets, and called "Sardinian seed," from the gardens of that island, being considered generally very good; and certainly a packet of them I had last year in *every* instance but one, I think, came up.

The seeds should be sown in heat, in shallow pans, during March and April, carefully giving air to the young plants when they appear, and from the first day of sowing keeping the sand in which the pots are sunk just moist enough to prevent the soil from becoming dry. I am always very careful to sow such very tender seeds at a little distance from each other, to facilitate removal when they have to be potted off.

There is a tiny feather attached to the Geranium seeds by a spiral stalk, which it is better to cut off before sowing; the seeds grow, indeed, equally in either case, but where the fibre is left they are apt to work themselves up to the surface of the soil by means of it, and of course the young plants are then exposed to some risk of being dried up and killed. Damping off, however, is generally their chief danger; they should always therefore be kept uncovered, if

under glass, for some time after watering ; and there ought not to be very much vapour allowed in the case they grow in. The seedlings, when they have four little leaves, should be planted, or "pricked out" as it is termed, separately in small sixties (not thumb-pots) about three inches wide ; equal quantities of peat loam and sand being mixed for soil, and carefully freed from every insect. Then, these pots being replaced in heat, and shaded, any further changes that they may need will be comparatively easy. When the roots extend to the sides of the pots, turn them out into another pot a size larger, filling up the spare space with similar soil, and taking off the pieces of charcoal drainage, but leaving the ball unbroken. But for a first attempt, it is almost safest to sow the seeds singly, in the little pots called "thumbs."

3. When the seedlings have grown on well, the difficulty is, how to make them flower. They grow sometimes, when not properly pruned, or when light is not given sufficiently, to be six feet high before any blossom appears. Even thus they are certainly very delightful evergreens ; but there are many plans that might be tried to make them flower sooner. The spring after they are sown is the proper time when they ought to be in blossom.

4. One idea is, that as climbers (*Tacsonias*, for instance, a kind of *Passion-flower*), cut down after

covering a whole wall with unflowering shoots, have started up from the ground and grown again and loaded the wall with blossoms, so Geraniums thus growing on quickly, supplied with air, and warmth, and water, and being fresh potted as often as the roots touch the sides, and towards autumn having all the young, green wood cut off, may be induced to bloom in the course of the year following. The points of the branches, used as cuttings, afford another hope of early flowers.

5. On another system, the plant should be kept, after about the third re-potting, in a comparatively small pot, three or four inches in diameter; the plant not to be cut in, but placed in the fullest sunlight, and kept on a very low system for the first year altogether. There would seem to be a danger here, though, of stunting the plant, so much as perhaps to dwarf its blossom.

6. The care of these seedlings of course comes into the summer's work. To grow Orchids and stove-plants during these months is also easy, as any plant-case kept nearly closed by day and filled at night with hot water, would keep up most fully the close moist atmosphere peculiar to stoves. The glass case generally needs shading now, when the sun shines upon it: indeed, a west window, or an east one, or even the north, is now a better aspect for any plants in flower than the too hot south.

7. *Capsicums* and *Chillis*, if any one wishes to grow their own, are just the things for enjoying heat; *Achimenes*, too, and *Gloxinias*, now come on very well, and *Balsams* grow amazingly.

Seedling *Carnations* should be got up and potted by June, and placed in a cool and airy place sheltered from very heavy rains. *Tree-mignonette* has to be carefully trained and grown on for winter; *Auriculas*, like the *Carnations*, require coolness, light, and air. *Geraniums* bear more heat: I should be inclined to try a few in the greenhouse, and others in the case, so as to see which structure answers best, for they must be kept growing on fast, without becoming drawn; and to secure this they need plenty of light without much direct sunshine.

The *Capsicums*, however, need a burning sun for ripening their scarlet fruit. *Balsams* require potting as often as their roots touch the side of the pot, and a liberal supply of water constantly.

8. *Primulas* are some of the very best plants to grow. They like a free supply of air, their chief enemy being damp; they should therefore be kept till autumn in a cool place, whether in a balcony or a room.

Achimenes and *Begonias* are always ready to press on, and they can bear any amount of moist, shady heat, either in bringing on the old or in striking young plants: they often grow now even from a single leaf.

9. As to the supply of moisture, I must repeat that plunging the pots in sand is the best treatment. A thorough good watering morning and evening, and a good syringing (if at any time absence from home or any other cause admits of our cutting or sacrificing the display of already open flowers), will keep the plants much longer in great beauty.

10. Cutting off at once each separate flower as it begins to fade, greatly helps to keep the plants healthy and free from mildew; and every broken or yellow leaf, at the moment it is first perceived, should be removed.

11. If ever any plant does become thoroughly dry—though, if standing in sand, it would take some days of neglect for it to come to that pass—in such a case, place the pot up to, but not over, the rim, in a deep pan of water, and let it remain there long enough to get well soaked through.

If, however, a plant covered with blossom should be mounted up for show in a wire stand, or on a drawing-room table, where, exposed to the air in its porous pot, it becomes dried up, and begins to droop, the chances are, that all the flowers will be lost, as well as many of the leaves. The best chance of recovering it is to cover it at once with a glass shade, or to put it in a moist atmosphere, plunging the pot in thoroughly wetted moss; giving it only

a common watering, and, later in the day, letting a little water stand for a short time in the saucer.

12. Every one, I think, should know the hot-water cure for cut flowers. When they have faded, either by being worn a whole evening in one's dress or as a bouquet, by cutting half an inch from the end of the stem in the morning, and putting the freshly trimmed end instantly into quite boiling water, the petals may be seen to smooth out and to resume their beauty, often in a few minutes. Coloured flowers revive the best; white flowers turn yellow. The thickest-textured flowers amend, perhaps, the most, though Azaleas revive wonderfully.

I have seen flowers that had lain the whole night on a table after having been worn for hours, which, at breakfast next morning, were renovated by means of a cupful of hot water. Carnations, Azaleas, Roses, and Geraniums, can be treated in this way; and I have known them to keep fresh after this treatment almost as long as they would have done if they had been newly gathered.

13. For keeping flowers in water, finely-powdered charcoal, in which the stalks can be stuck, at the bottom of the vase, preserves them surprisingly, and renders the water free from any obnoxious qualities: most ladies know how disagreeable it is to rearrange a vase of flowers, or to take a flower out of

one in its usual state in summer, even though the water may be daily changed.

14. Basins or dishes of wet sand, with some of the pretty Lycopodiums (*L. apoda* especially) growing in them, or with fresh-gathered moss covering the surface, the cut flowers being stuck through into the sand, are pleasing ornaments in a room. Blue Passion-flowers alone form, in this way, a most lovely and fragrant ornament. Any very short-stalked cut flowers, which one sometimes hardly knows how to manage and arrange in water, could be placed in the damp sand, and would last and look well upon their bed of living green. The dust of cocoa-nut fibre forms, however, such a harmless soil, that I am inclined to try it, laid on the top, or mingled with the sand in the dishes; the Lycopodium being allowed to grow in it: *L. denticulata* is one that I think would answer well for this.

15. Summer, it should be remembered, is the time for attending to the winter's stock of cuttings, if young plants are to be kept on for spring; but for many people it is quite as well to be content with spring-struck cuttings: a few autumn-struck Pelargoniums are, however, always desirable for early spring flowering. By Pelargoniums I should say that the florist's varieties and fancy kinds of Geraniums are meant; while the Geraniums proper are the scarlets, like Crystal Palace and Tom

Thumb, and the pink white kinds, like the *Boule de Neige*, &c., and the ivy-leaved kinds, also those grown for their aromatic leaves: of all these I recommend that many cuttings should be struck in the summer months, so that there may be a number of nice young plants to come on early in the spring next year.

The ivy-leaved sorts especially should be thus provided, for in them one wants a good growth early in spring from well-rooted plants.

16. Any shady place, with sandy soil, with or without glass, will do to strike them in July and August. Old *Mignonette* boxes, or any old boxes, answer for the purpose; and in these boxes the scarlet varieties may be stored away in autumn for the winter.

17. I very much advise the use of small pots for these; if one dies it can then so easily be replaced, and, most emphatically in respect to cuttings,—

“One sickly sheep infects the flock,
And poisons all the rest.”

One mouldy leaf does the same. After such sources of evil are cut off, dusting with flour of sulphur is the best course to take with the plant, and this often prevents the mischief spreading.

18. *Pelargoniums* require re-potting when they have finished their first flowering. They should be turned out of their pots, removing very gently any

parts of the old soil not full of roots, replacing the plants in rather a larger pot, with good loamy soil and charcoal drainage, shading and watering for a day or two, and then placing them in the sun again. By this treatment they will often be soon again covered with blossom, and last as long in beauty the second time as the first. When, finally, they go out of blossom they require cutting back two-thirds of each branch, after standing for a fortnight or longer full in the sun to harden (the pots being plunged), but being watered scarcely at all.

19. As a general rule, in summer, the established growing plants can hardly have too much air or too much light. When in bloom, indeed, direct hot sunshine on very delicately blossomed plants causes them to go much more quickly out of flower; during the night, however, the more air they have the better, if guarded from heavy rain, and carefully from wind. I remember staying in a house where there were some of the freshest-looking drawing-room plants I ever saw; every morning they were covered with flowers, and all glittering with dew. Of course I wanted to know all about the treatment. "Oh, it's very simple! When the house is shut up at night, the servant just takes the plants down on a large tray to the landing, and places them on the leads by the conservatory, where there is room for them all to stand." The roof of a house does just as

well ; and there, even in London, the smoke may be kept off by a double covering of fine worsted netting stretched on any common support or frame : thus the plants on a fine night have a most beneficial change to the open air.

Thorough good drenchings with water are wanted now, as I have already said : air and water being effectual adversaries of green fly, though of the danger of its ravages Dumont's powder renders one tolerably independent.

20. For special hints, the reader is referred to the list at the end of this little volume, where such plants are classed together as require similar treatment. The chief care now is, as I must repeat, not to be too ambitious : to keep just as many plants as one can tend well, is better than to try to manage three times the quantity ; and in so doing, not only space, but what the owner has time to attend to well should especially be considered.

CHAPTER V.

OUT OF DOORS IN SUMMER.

1. I MAY be allowed to say a few words about plants in the borders—though it is, perhaps, a little beyond my province—because a garden ever so small may

be made to help on the house supply of flowers, even if it is itself out of sight, and used but as a place where plants may stand aside. If it is at the back of the house, and a shed or toolhouse has to be made, even though the roughest of places, for housing soil and pots, it is well to roof it in with glass if possible: I believe it now costs no more than tiles or slates; while it would serve at once as a most useful cold pit for many things which require protection rather from wet than cold. Covered passages, again, leading from the door to the gate, if roofed with glass, would be invaluable for climbers; but these hints are only given as suggestions for any one who, for any purpose, needs to roof in a space.

2. Many persons, however, living a mile or two from the busier parts of London, might make a little garden quite beautiful; the conservatory and forcing-case helping it with reversions, and raising a few of the tenderer cuttings for it. However, for a London garden, I would recommend only a few of such plants and flowers as are by experience known to thrive in such air well.

Ivy, in abundance, is always welcome, and if it covered all the walls and surrounded all the beds, supposing the garden to be laid out on gravel, I do not think any one would find it too sombre as a frame for the gayer flowers. Many persons delight, however, in having beds laid out on turf, and in such

cases the ivy should be confined to the walls around ; except when it is introduced in pots to fill up designs or to give green to the beds in winter.

8. Turf is very delightful, affording always a patch of green, and if sown in May or June, one soon has a pretty lawn ; though, perhaps, gravel is, in some respects, better for a very small garden. The gravel style, however, requires the beds to be small and geometrical ; for turf, "pincushion beds" are, I believe, some of the easiest to manage, and also amongst the prettiest of the many shapes.

These beds are round, and three feet is said to be exactly their right diameter. If the beds of the garden generally are round, straight borders must be done away with quite, or the angles, at any rate, must entirely disappear.

For very small gardens, I think few arrangements look better than one very large raised circular bed, filled with Crystal Palace Geranium, or Tom Thumb *Tropæolum* ; or, perhaps, best of all, for summer, with red and white Verbenas, replaced in winter by sunken pots of evergreens. The bed may be fringed with ivy, if on gravel, or with the closest and most brilliant coloured creepers, if on turf.

If on gravel, I should advise one wide walk round it ; all the rest being filled with border plants, and deeply backed with evergreens and shrubs.

If on turf, there might be several small beds, of

pincushion shape, set round it ; or each corner of the garden (I speak of London plots of ground) might be filled up with a mass of shrubs and plants, having four small beds, one midway down each side.

4. I recommend ivy strongly for the whole of any wall, because London garden walls are very black, and London winters begin early and last long. Just at the time when ivy looks its greenest and its brightest, it is wanted most ; and in summer it is found to bear having slight long wreaths of climbers tied outside its shoots, making for those climbers a beautiful green background, and remaining itself quite uninjured, if care is taken not to pull it down.

When one wishes to have a pretty garden, it is a great assistance to have a reserve of small evergreens in pots, which can be sunk in the beds and taken up when done with. This plan, which I saw long ago recommended by Mr. Shirley Hibberd, has answered capitally whenever I have used it ; small, common evergreens being sunk in the beds in winter, can be pulled up and carried off when no longer wanted without the slightest injury to themselves or others. Variegated foliage, for those who like it, may be useful in giving a little colour. Privet and Box, and common English Heaths, do well ; Periwinkles particularly well, and Garryas and Rhododendrons are also very useful: the latter, however, rather for permanent occupation.

5. When well furnished thus with evergreens and single and double snowdrops, and with Crocuses, Cloth of Gold and Cloth of Silver, and the hardy little Scotch,—some of the most cheerful and most bright of all the kinds; when planted in large clumps of yellow, white, and blue, in amongst the shrubs,—a spring garden would very soon be gay.

The common double white *Narcissus* is a capital old flower; and so are even Daffodils in London, just for the sake of “auld lang syne;” though I fancy children only care for “daffy-down-dillies” on account of the name they go by, and because they come in so early, and thus appear welcome and bright, as harbingers of spring.

The lovely little Siberian flower, *Scilla Siberica*, with its blossoms of pale sky-blue, comes up, too, in early spring, one stalk after another, in long succession, and is one of the best of early things to depend upon till the Tulips and the Anemones begin to arrive; though at Malvern I have seen the single scarlet Anemone out in December, and again in February: Wallflowers, also, will often be out by March, or even earlier, if the season happens to be mild.

Hepaticas and Primroses are rather to be eschewed: except the pretty double white Primrose, and the sulphur and lilac kinds; but the leaves of the Hepatica are so untidy that unless it can be so

managed as to be cultivated in pots, I hardly think it is much worth growing.

Auriculas in pots are very pretty, with their downy, floury-white leaves; and then Jonquils and Tulips will be coming on. Hyacinths, too, grown in pots and sunk into the ground, and Anemones of many colours (double, if you choose), as well as the pretty cup-shaped single ones, are amongst the greatest ornaments of the garden from March to May. They are especially valuable to use as cut-flowers.

And there may be whole beds and masses of Sweet Woodruffe, a little early green-leaved and white-flowered plant, with a scent as of new-made hay, which it retains when dry.

Lilies of the Valley, closely crowded and left undisturbed in a deep bed of leafy soil, may do, or they may not; but for that no one can give a rule, as no one knows the why and wherefore of their flourishing or refusing to grow at all: an eastern aspect does best for them generally; and in the best beds I ever knew of them, they grew luxuriantly underneath the rose-trees, where the lilies used to run into the turf and be mown down regularly every Monday morning. But that was in a flowery county, where those lilies grew wild abundantly, so that a gardener and a cart used to be sent to fetch them from the woods.

Periwinkles are capital green things, too; planted under a black-looking, ugly wall, they would help to hide its ugliness. A bank of soil and rubbish might be useful, thrown up against the wall, which they would quickly cover.

6. By the time that Hyacinth pots were all exhausted, and Anemones and Ranunculuses going out of bloom, I suppose there would be Crystal Palace and Tom Thumb Geraniums beginning to show their scarlet flowers; ivy-leaved Geraniums, too, and Gentianella; with Nemophila and Mignonette, sown in February and brought on in the greenhouse for turning out into the borders; Stocks, also, in abundance, which are so gay and sweet-scented: the three last-named *fill up* well among the Geraniums, and *pull up* well when done with.

A succession of dwarf Stocks should be kept up in London; and one bed, at least, or many border clumps, of Carnations, both for scent and beauty, as well as a quantity of Phloxes and of Mignonette, the latter scattered everywhere.

There should be groups in the borders, too, of tall white Lilies (a little salt is good as a manure for them); and also of Chinese Pinks and Veronicas, Campanulas and Forget-me-nots, Lobelias and Pottentillas, Eschscholtzias and Saponaria Calabrica—the last a pretty little pink thing. Dielytra spectabilis, blue Convolvulus, red Tom Thumb Tropæo-

lums, German Asters, and Chrysanthemums would come later in the year.

One tall group of very pale blush Hollyhocks looks very well in a corner by a wall; and so do Dahlias in the wider border spaces, which admit of high plants. More than two or three large flowering plants overwhelm a little garden, dwarfing and impoverishing everything else in it.

For climbers there are *Calystegias*, *Cobæa scandens* (which fills up quickly), Jessamine, Clematis, Passion-flower (*Cerulea edulis*, one of the best for London), Virginian Creeper, *Tropæolum Canariensis*, and Sweet Peas.

7. Of Roses for climbing, the Ruga, Evergreen Ayrshire, *Félicité Perpetuelle*, Banksia, and Macartney, are very good indeed. Banksia is not, however, easily grown in London.

Amongst other Roses, the Provence and the little crimson China (*semperflorens*) are about the best for London; especially where they can face the south or west, and be well syringed often.

Géant des Batailles, Lee's perpetual Maiden Blush, Baronne Prevost, and the common Cabbage Rose (sweetest of all sometimes), Souvenir de Malmaison, and Duchess of Sutherland, will almost certainly succeed and flower fairly, with common care to give them good soil and water. Aimée Vibert is a very good Noisette, and flowers well a little way out of

London. Tea-scented China and Moss-roses require perfectly pure air before they can be made worth growing; except sometimes, when much care is taken to shelter them with large bell-glasses in the day-time.

8. Watering with soapsuds has a wonderful effect on climbers, and on rose-trees generally; and on fig-trees the benefit they confer is extraordinary. Where poultry are kept, the sweepings of the fowl-house would make in time a first-rate autumn dressing for all such trees. Superphosphate of lime is also said to be very beneficial to roses; and a band of some dark cloth or leather dipped in sweet oil keeps off creeping insects to a great extent, if fastened round the stem: lime dusted on the surface of the soil, and soot, are also very useful for preventing their ravages.

9. For the beds, I should be much disposed to try, if the air were pretty good, a round one in the middle, of red China Roses pegged-down over it, with a low standard Aimée Vibert as the centre plant, it being white and drooping; round the outer rim of such a bed, there ought to be some pretty edging—*Spargula*, or white Heath, if on gravel; or, best of all, the beautiful blue *Nemophila*, which may be grown in pots, so as to replace, without difficulty, those which begin to die away. This bed being arranged, I should recommend two smaller beds or

baskets of scarlet Geranium, Trentham Gem, Tom Thumb, Punch, or Crystal Palace, with an edging of white Ivy Geranium round each. These beds to be placed at cross corners, with similar ones of crimson Unique Geranium edged with pale-coloured Heliotrope, and one of Verbena (Beauty Supreme), with an edging of Mrs. Holford Verbena; but as this makes a very large share of crimson, I should prefer the two latter beds being filled with pale Heliotrope and purple Geranium, or Purple King Verbena. The four, again, look very nice filled respectively with white Fuchsias, Calceolarias (*Aurea floribunda*, or Orange Boven), crimson Fuchsias, and dark Heliotropes; of which Miss Nightingale is amongst the best.

10. The borders I should incline to round well off, always supposing it to be a London garden, making solid corners at the top to hold a good shrubby background faced with tall white lilies; one group of Hollyhocks—Rosy Blush, Pink Perfection, Lady Willoughby D'Eresby (cream-coloured), or Queen of the Whites, looking very well; and then Ribes sanguinea, Syringas, or Lilacs; with Carnations, &c. &c., in the front of all.

Generally the greater mass of evergreens one can get together in the border, the better framed is the little garden with its gay flowers.

All along before the window, too (if one opens

on the garden), a long, low trough of Heliotrope, Geraniums, Fuchsias, and Mignonette is very pretty, and always sweet. In spring, common Wallflowers and Hen-and-Chicken Daisies are perfectly delightful, sunk in a wide, deep box.

11. But what can be done is endless, and I have said quite enough to indicate how much; only I may add that it is not well to have London grass cut too often in hot weather, nor to see the besom coming near it: a watering-pot, with a little nitrate of soda dissolved in the water, is much more serviceable, and the grass looks all the better for being thus refreshed.

AUTUMN AND WINTER.

CHAPTER VI.

WINTERING PLANTS.

1. THIS is rather a melancholy time, for every day sees some new flower fading; and every morning we anxiously glance round the garden to see how it fared last night; while every evening leaves us fearing that we have seen the last of its summer beauty.

It is of no use whatever to try to keep all the plants through the winter ; such as have once been grown in the open ground, at least, must go. Fuchsias, Geraniums, trained Heliotropes, Myrtles, and sweet Verbenas are particular old friends, perhaps, and so they must come in ; but then it must be pots and all.

2. To avoid, then, the risk of taking them up, I think that the plants which are intended to be kept through the winter had better never be turned out of their pots at all ; but even in that case, unless during the summer they are often lifted, they will want a good deal of care and shading for the first few days after being taken out of the beds, because of their habit of rooting down into the open ground, either through or above the pot. The drier the day, therefore, on which they are moved, the better ; as then, perhaps, they feel the check rather less ; and the extra shade and moisture will better compensate them for the damage they have sustained in the loss of their too-far-extended roots. At the same time, if necessary, they should be cut in pretty freely, taking care to preserve the plant of a good shape, and preferring rather to shorten all, than wholly to remove any of the branches.

3. Scarlet Geraniums may be planted for the winter in Mignonette boxes, or in tubs if very large, in dry sandy soil, or cocoa-nut refuse, and be left

gradually without water; cutting off every leaf they have, and exposing them to the air for a day or two that the ends may shrivel up, and then storing them in a dark, cold, dry place. If the roots are covered up with a little sand, or sawdust, or dry hay, they may remain from November to February without any water. Or if, after being cut down, they are packed without pots, and the earth quite shaken from them, in a heap of sand, or even hung up in a dry cellar by their roots, they will dry like Dahlias, and, like them, shoot up again when brought into light and warmth, and watered again in spring.

4. Cuttings, too, of woody Geraniums, four or five in a pot, sunk in sand, which should be now and then slightly damped, will go on well sometimes—even the florist's kinds—without any fire, in a room in a well-built house with shutters to the windows, if a piece of *Frigi Domo* be thrown over the box they stand in on very frosty nights. In the spring they will need potting out, placing near the light and supplying well with water, when they will at once begin to grow.

5. Verbenas will keep in the same way as these Geranium cuttings; so will Carnations, Primulas, Myrtles, and Fuchsias, as well as *Deutzia gracilis* and hardyish Pelargoniums, and sometimes Sweet Verbenas.

6. The fancy sorts of Pelargoniums and Helio-

tropes need a little warmth, as do the Primulas that are coming on for bloom ; and the Begonias die if the temperature falls much below 45 degrees.

Begonia fuchsioides and Dregii are great winter ornaments in a tolerably moist warm case. Maiden-hair Fern needs some heat, too ; but it still generally loses its fronds, which the Pteris Ferns do not ; they are, therefore, very precious.

7. Dryness is *the* great desideratum in winter. If plants escape just being killed by the withholding moisture, and are allowed to become dry by degrees and never made really wet again till spring, it is wonderful the amount of dark and cold they can endure.

8. Seedling single Anemones sown in March are coming into blossom ; early in the winter I have seen them (from November onwards) making many rooms gay with their flowers, which are very bright by candlelight, mixed with evergreens in the vases ; their colours, blue, scarlet, and pink, being all shaded off softly, and their hues very pure and clear. They do best sown in boxes, or in pots for flowering, if not exposed to much sunshine. A spare room or cold shed is the best place for them till hard frost comes, as they need plenty of light and air ; they may stand out of doors till frost threatens to come speedily.

9. Most plants, however, and perhaps all, will have been allowed to stand out of doors only for the

benefit of their health; and in that case they will have been taken back to their proper places in good time. But here, presuming that the plants are placed to stand at once in their winter quarters, I must mention, before anything else, the importance of regulating, according to the season, the moisture of the sand they stand on. I am a great advocate for the wide low sand-stage, so to call it, all round the conservatory or greenhouse—the pipes for heating, if necessary, being carried through it; and a large raised stand or bed, rather than a stage, being placed in the centre of the house. But in winter much more care is required not to let the sand be damp, except in a really warm house, above 45° , as nothing could be more hurtful to the plants than that.

Here it is well to observe that the more lime there can be about the place, anywhere out of the reach of roots (allowing for the risk of plants rooting downwards through the pots), so much the freer from insects and all kinds of blight the house is likely to be in autumn and winter, and therefore also in the spring.

10. In a conservatory so arranged, I should be disposed to make the centre stand or basket form the gay parterre, placing in its bed of sand quantities of small plants—*Begonias*, *Primulas*, and winter-flowering *Fuchsias*, *Verbenas*, *Geraniums*, *Mignonette*, and *Ferns*, with bulbs in quantities and

in succession ; and a few large plants should be in the centre, such as graceful tall Begonias, Fuchsias, or Geraniums, Myrtles, and Azaleas. For the bulk of the plants, I should arrange them on the shelves around ; the tenderer ones, in cold weather, not too close to the glass, and the tallest trees forming pyramids in each corner, so that there still should be abundant light for the smaller plants in front.

11. The baskets hung from the roof should be always filled with the choicest foliage or flowers ; and they will greatly add to the display, even though want of room elsewhere may oblige one to give a place amongst the others to plants that are not expected to bloom in winter.

12. As regards resting plants, the less water they can be kept alive with the better it will be ; even the sand should be, as I said, nearly dry, or they should not be deeply sunk within it. But I must explain further about "resting plants."

13. There is always in hot countries during the hot season, and in other places during winter, a time when the plants do not make much growth : when, in fact, they do not materially want or receive much nourishment. This time of rest—when they are, as it were, digesting their food and hardening their new growth—seems to be as necessary to all plants as sleep is to animals. In bulbs we see it most clearly exemplified ; and it is an important point to

be borne in mind, since, except in a few rare cases, such as seedling Fuchsias (which in reality we are wanting rapidly to exhaust), no plant can bear being kept constantly growing without more or less injury ultimately to its vigour.

14. Every dead leaf must be removed, and every fading flower; and the leaves should not be thrown on the soil in the pot to mildew, but be carried entirely away. Plants must be shaded during sudden bursts of hot sunshine, or the sand or moss they stand in should be slightly damped to moisten the air around them, that they may not become exhausted by transpiration. Such are the principal rules for guidance as to the plants during the winter months.

15. The forcing-case may all this time be hard at work, but it must be guarded most carefully from the slightest damp and mildew; if mildew appears, dust the plants with flour of sulphur. Bulbs may be started, but they are very far better when not grown in heat. I generally put any I want out very early, only at last to open in the higher temperature. Grow lilies of the Valley in a warm place, putting them for three days in the coolest corner before they have the warmest, watering them well, and only taking them to the greenhouse or the drawing-room when they show their buds.

The lovely little *Cyclamen Persicum* does well,

too, here; and so, in fact, do any of the winter flowers named for forcing.

16. And here is the proper place for speaking again of the hanging baskets.

Verbenas, Heliotrope, common Milfoil, *Sedum Sieboldii*, blue *Lobelia*, Ivy-geranium—all these are appropriate for them, or for their edging; *Linaria cymbalaria*, too, must not be forgotten, and dwarf scarlet Geraniums, Fuchsias, and crimson Roses are amongst the loveliest centre plants they can have.

The basket for Ferns can be lined with moss, and filled with cocoa-nut refuse; and the shells of cocoa-nuts need not be despised as baskets.

Wire baskets occupy the least room; but a rather low and wide willow or hazel basket, when it can be had of a nice shape, is much the prettiest. There are many other gracefully-growing little plants, and the list for baskets may soon be made a long one.

I must particularly mention as to this plan for growing Ferns, that many kinds will root downwards through the sides of the basket; making perfectly charming ornaments.

A plan of my own is to pull out several strips from the little flat baskets called punnets, that are sold with fruit and flowers, and then fasten moss firmly round with twine or wire, pulling it through the holes and quite covering the basket; which should have been previously varnished with red and black

sealing-wax dissolved in spirits of wine. The plants hung up in these baskets thrive beautifully in warm plant-cases; but they have to be now and then gently lowered into a pail of water, and held under the surface for a few minutes.

The wedge-leaved Maiden-hair Fern, *Adiantum cuneatum*, is most perfect of all for this; but many other hardier kinds are very pretty. Common plants, too, as Musk and "creeping Jennies," are very popular for hanging up; and many lovely little English wild-flowers, such as Bindweed, or *Convolvulus*, Pimpernel, Toad-flax, and Herb Robert, are extremely pretty. The wild-flower vendors, I find, procure them and sell them at a penny a root, bringing them in quite fresh from the woods when wanted.

PART II.

Means required for Growing Plants.

CHAPTER I.

**HEATED CASES FOR SUPPLYING THE
CONSERVATORY OR STANDS.**

1. THERE are always some plants which are very difficult to manage without some means of heating; indeed, I believe this consideration keeps back many from becoming flower cultivators. They do not know how very easily the heat required may be obtained, and thus, under a general dread of expense, a horror of flues and stoves, inability to bring in hot-water pipes, and other imaginary difficulties, they regard the attempt as hopeless.

It would hardly be believed by those who have never tried, what great success can be achieved, even on the smallest scale, in forcing, striking cuttings, raising seeds, &c., as well as bringing on the already established plants.

2. Where a tolerable heat can be kept up, plants usually grow extremely quickly; a very few days often are sufficient to bring them out, when ready to break before.

The succession of bulbs, for example, is so rapid, that long before one set has faded another is ready to take its place.

Very small pots are the best, in many respects, for flowering plants, and particularly for bulbs; so that during the three winter months in which the conservatory and stands depend so much on the supply from the forcing-case, one case only three feet long by eighteen inches wide, and as many inches high, is amply sufficient to turn out from a dozen and a half to two dozen plants at once; a new set succeeding in about from seven to ten days more. Often, indeed, three days is all that they require to open their flowers and to acquire their deep colour and sweet scent; which seems strangely dependent often upon a little warmth.

Allowing for the many plants which will blossom freely if merely secured from frost elsewhere, it is evident that one such case as this, or two such cases should the demand for flowers be very large, would be quite sufficient to keep up an abundant display.

3. I shall be more exact and better understood if I simply describe my own forcing-case, and mention,

at the same time, how it is intended to be employed.

This case has hitherto answered extremely well. It was made in accordance with my instructions, and after my own plan, by a very intelligent, clever carpenter (J. Walker, Regent Street, Marlborough Road, close to the Kensington Museum); and the cost of one of the same size—three feet by eighteen inches wide and high—including the heating apparatus, would not exceed two guineas. My case, lined with zinc, but without a boiler, as I call the zinc hot-water case, cost thirty-five shillings.

The said boiler is two inches deep, and fits rather loosely into the outer trough or box of six inches depth, which is destined, when duly provided with silver-sand, to contain the plants for forcing.

The boiler is filled from a pipe passing through the woodwork at one end; and there is also a small brass cock for drawing the water off. A very small pipe inside, about two inches long, provides for the due escape of the air; without which, of course, the case could not be filled or emptied. When the escape of steam is too great, a cork puts a stop to that; but the cork must be taken out before the refilling commences.

4. The case I am now describing can be used entirely for forcing, or when not wanted for that purpose, it is in itself a charming miniature conser-

Heated Cases for supplying Conservatory, &c. 63

vatory. I have never known any plants thrive better or more luxuriantly than those which have been its tenants.

It is a welcome consideration that these cases answer so excellently for both purposes, accordingly as their boilers (which may be taken out) are, or are not, in use. The temperature within the case in summer, when nearly closed, varies, at will, from that of a warm moist stove to that of a greenhouse, or even of a cool and shady place, if needed; and the beauty and long continuance of the flowers in it, while protected from dust, from extreme dryness, and from draughts of air, is really wonderful.

The ends, sides, and top of my cases are each formed of one large pane of glass; the top and one side being separately framed, so as to take in and out, in order to give greater facility both for cleaning and arranging the plants within. Small brass buttons fix the glazed panels in their place, and a hook attached to the upper part catches the side and retains it, when desirable, in such a position as to leave it about one or two inches open. I very seldom have mine entirely closed, except at night; and when containing plants in blossom, the entire front panel is often kept out all day.

5. The woodwork being extremely slight, these cases are very ornamental; and they can be made

of any wood or painted any colour. I find those made of oak answer remarkably well. They should not be made of any veneered wood, as the damp would blister or displace the veneers; mahogany also does not look nearly so well as oak. Enamel and gold, however, can be used to great advantage, where very ornamental cases are wanted for the drawing-room.

In spring, which is the principal time when artificial heat is needed, the zinc case being filled with boiling water, night and morning, the heat varies from 55° to 75° : indeed it could easily be had at 90° ; especially when the silver sand is a little moist, and the soil in the pots effectually retains the heat, often feeling quite warm even four-and-twenty hours after the boiler has been filled.

6. Another case of mine is similar, except in size. Its frame is four feet long by two feet high and two feet wide, and fitting, like the other one, on a trough of about six inches deep.

It is very useful to have a woollen cover to place over these cases on any particularly cold night, to preclude the escape of heat, and prevent the great condensation of steam upon their glasses; as the dripping of any moisture is very injurious to the plants it falls on. I believe a slope of four inches in the roof, and a gutter along the front to catch and carry down the water, might be; sometimes, an

Heated Cases for supplying Conservatory, &c. 65

improvement ; though it would not certainly add to the beauty of the case.

7. *Case.*—There is a contrivance called the Waltonian case, extremely popular among gardeners, made by an ironmonger (West, at Winchester), at a cost of about fifty shillings. This is nearly as large as the case I have described, but not so ornamental, and less fitted for a lady's room. It is, moreover, much more complicated, inasmuch as it requires a lamp, or a jet of gas, to be kept almost continually burning underneath its boiler. For these reasons, therefore, I preferred having recourse to my own more simple plan, which I know by experience to answer well, and which is also free from the expense and discomfort of a lamp almost constantly burning.

8. It will at once be seen how easily and cheaply cases of this description may be made, so as to answer the same purpose : an old candle-box, or a tea or orange chest, only needs to be cut down and fitted with a zinc pan for hot water ; and a large pane of glass, costing about threepence per square foot, resting on the top, would answer, so far, even better than the more expensive cases, because these panes of glass could be at any time turned over to remove any drops of water beginning to collect upon them.

For the larger cases a sponge is very useful, where-with any moisture that does collect can at once and

safely be removed, without falling upon the plants at all.

In connection with these frames, a good-sized box from about four to six inches deep is very useful ; any pot just removed from the heated cases can be sunk in it and covered with a glass, gradually to harden the plant for the open air or stands. A few propagating glasses—eight, ten, or twelve inches in diameter—are also desirable : they can be bought at any glass warehouse for from one shilling and fourpence to one shilling and ninepence each.

CHAPTER II.

FLOWER-STANDS, ETC.

1. FLOWER-STANDS, I strongly advise, should not be of wire ; for, though such stands are very nice-looking when freshly filled, and being portable and taking up little room are very useful just to fill up a space, they are certainly bad contrivances for healthy plants to grow in : it also seems to me a work of some difficulty to make them look ornamental ; as the moss, which is so essential for them, can only, with great difficulty, be kept in good order.

In the place of wire, I would recommend wooden stands, in the form of trays or boxes five or six inches deep, made of wood, rustic in pattern, and varnished for conservatory use. Similar stands of china tiles, or of zinc, ornamented in white and gold, would be suitable for drawing-room furniture.

2. Best, however, of all, I think, are those of basket-work, lined with zinc; made either plain or in an ornamental style, and coloured to suit the room or greenhouse in which they are meant to stand: proper precautions should be taken to secure strength; such as a common solid stand, for instance, for it to rest on, not quite so large as the basket it supports.

3. The bottom of the basket should be covered with two inches deep of silver-sand; on this if small, or sunk *through* it if large, the pots should be placed, so that all are brought to about half an inch below the level of the top of the basket in which they are. The quantity of sand may be more or less, according to the strength of the stand: the more, I think, the better.

Then, taking any common moss that can most easily be obtained (the men who sell primroses, &c., in the streets, can often procure luxuriant specimens from the woods), a canful of boiling water should be thrown upon it, to destroy the insects and eggs of insects that may be in it: this process makes the

moss particularly dry and clean, only the moss should be spread out in the sun first, or washed, to make the living insects go away. With this moss the spaces between the plants are to be filled.

4. A round stand holds a very large number of plants; but, before ordering one, it is better to measure a round table, and be guided by that in determining the requisite size. Figures are very deceptive: I speak from experience, for once I had a plant-case brought home, that to my astonishment and dismay, could not, by any manœuvring, be got in through the door!

For shapes, I am rather an advocate either for the circular or for what may be called a "square oval." Supposing a stand four or six feet long is wanted for the centre of the conservatory, or to be placed in a window recess which it is destined to fill, it would be best made in width about half of its own length, very low, and rather shallow; the corners being rounded, but yet not sufficiently rounded to lose the general squareness of effect. The sides, if of wicker-work, should slightly slope outwards, so as to avoid formal perpendicular lines.

The basket-stands are an American contrivance, I believe, and I do not know of any English place where they may be met with; but at the London Asylum for the Blind all such work is undertaken, and, as the blind make so neatly the pretty plant-

baskets for hanging from the roof, I doubt not that they would immediately, and beautifully, execute orders for basket-stands.

5. The hanging baskets themselves I must not forget to mention. I prefer, by far, the wicker ones of willow, or of hazel-rods: these are much the lightest, and are not liable to rust, as are those of iron wire. One of these shallow baskets suspended in each corner of the conservatory, as well as in front, with flowers hanging over the sides, would look very pretty, and so would also one in the centre of a drawing-room case; but though these plans are known to answer well, the size and shape must be determined by the owner's eye, and according to the space and place which they are required to fill.

6. A plaited wicker handle forms a very marked improvement to the basket-stands; but for the little hanging baskets, the wide, low shape, without any handle across, is, perhaps, the prettiest. For large stands, the handle should be very high, to give an air of lightness; at the centre, its distance from the surface should be about equal to two-thirds of the whole length of the stand itself. The handle should extend, of course, from end to end of the stand; or there may be two handles rising from the corners, uniting and slightly twisted together in the middle. A creeper, even a short way up, has a very light and graceful appearance in this way; the ivy-leaved

Ipomea (*I. hederæfolia*) being one of the very best of plants to use.

The basket painted a very dark reddish brown, looks extremely well, if for a greenhouse or a very simple morning room where white and gold might be out of place; though the flowers themselves tone down any undue brightness, and give colour and beauty to the duller spot.

7. For my own room, I have plain wooden boxes, instead of basket-stands, for holding plants; and mine have French casters underneath, so that though very heavy, they are moved with ease. These cases can be formed into any shape, and carved to any degree of richness. For instance, a very handsome stand can be made from one of the beautiful old carved-oak coffers; the plants in it look so exquisitely fresh, contrasted with the almost blackness that age has given to the oak: many persons possess such beautiful pieces of oak carving, which they would be quite glad to find a use for.

8. Whatever the pots are to be arranged in, a water-tight lining-case, or tray of zinc, is much to be recommended; it prevents injury to the exterior case and to the furniture of the room, and retains, better than in any other way, the requisite amount of moisture. This tray, whether it forms the lining of box, or basket, or wire stand, should be filled with silver-sand nearly to the top. If the box is twelve or

fifteen inches deep, put first a quantity of good-sized knobs of charcoal at the bottom; as this is one of the lightest, most purifying, and most fertilizing materials for the roots of plants: one can always make room to sink a pot through this, if the stem of the plant is bare or ugly, and by filling the case to the top with sand, the smallest pot can be raised to the highest level.

Generally, for flowering plants, small pots, which prevent too much sap being wasted on the production of roots, are best; and when sunk in the sand their only great disadvantage, that of dryness, is removed.

9. If, however, wire stands are used, it is possible sometimes to fill the space between the tray and the side with moss, and this is very pretty when neatly done. In the country, it is an excellent plan to adopt a little contrivance used abroad, and which is very useful in the groundwork of church decorations (from which the idea is taken), whether for a wedding or a grand church service; the work consists in sewing or pinning pretty sorts of spreading moss on to a coarse canvas or "hurden" ground; which is all the better if previously dipped in some darkish green dye.

One of the very best mosses to use in this way is the common club moss.

The school-children here become serviceable. It only requires a little care to make the mossy carpet not too formal, and many a merry afternoon may

the children have in the village-school, first having gathered at the dingle foot and from the steep damp banks in the shade amidst the tufts of grass, the long-spreading "miniature larch-tree moss" (as we used, in our larch-surrounded home, to call it); one party freeing it from all brown and stalky bits, a second forming it into little sprays, and a third—the elders of the little troop—sewing it loosely upon the canvas, beginning at one corner and laying on the various tufts so as just to cover the footstalks of the last, till the whole is finished.

I am sure that where this plan has not been already used it will be found a gain, as any flowers placed on the moss when it is damped keep fresh and last a long time. When used as a covering, roughly tacked together to slip in between the wire-work and the zinc lining, it only requires sprinkling about two or three times a week to keep it for a long time in beauty. Sometimes, too, it dries, and yet retains its green hue; but I know of no rule to ensure such good luck as this, and for the present I need only say that it is a first-rate lining. It is also one of the best surfacings I know of for stands of plants: at least round the outer row. For this purpose, the canvas being cut to the proper shape, the moss is put on all round, the stalks facing from the edge inwards, and either the whole centre is cut out and the space afterwards filled in with pieces or with detached

moss, or else straight lines are cut outwards from the centre ; so that by raising and laying down the little flaps, it is made to fit in neatly all round the stems.

10. Amongst other requisites for in-door gardening are the following :—A pair of gloves, having closed linen gauntlets sewn to them, and with an elastic to keep them up the arm, so that they can be pulled off at once, leaving the sleeves and hands unsoiled. A pair of scissors, not too large : those that hold the flowers when cut are useful ; also a very small syringe, or a little, sharpish brush such as is used for dusting picture-frames, a steel trowel, and a sharp penknife. A wide-mouthed bottle and common mahogany tray would be found very serviceable, also a couple of yards of common brown calico for soaking up (which it does quickly) any over-splashing of water. The watering-pot should be small, with a long spout, taking care that the rose screws on and is water-tight ; it is very troublesome otherwise, as the water runs up the user's arm. I very often water my plants with the water from my heating-case, as it has generally the chill off, which is preferable for the plants.

11. Any one intending to cultivate plants extensively had better procure the garden-pots and pans direct from the kilns, by the "cast ;" as many pots as the number they are called go to the cast, and

the price is two shillings a cast; so there would be sixty of the smaller size in a two-shilling cast, up to sixteen of the larger sort, of nine inches diameter: this is quite as large as an amateur can ever want, though they are made still larger.

The pots should always be scrubbed between the times of using them, and made to look thoroughly clean and dry.

12. Moss, when wanted, can be purchased, I believe; but it is no bad plan to employ one of the groundsel and watercress men to bring from the woods everything in the way of moss, hazel sticks, and wild flowers, that one may wish to possess.

Soil is to be had from any respectable nursery by the barrow; as peat, leaf-mould, &c. Cocoa-nut husks in small quantities can often be got for residents in London by the greengrocers whom they employ. Sand is enormously dear at Covent Garden; but it can always be had at the place where the soil is bought.

CHAPTER III.

CONSERVATORIES.

1. THERE is less to be said of plants themselves under this head than of the place in which they are to grow.

A chief difficulty with many people is the mode of heating; though in houses warmed by hot air or hot water, or where a gas burner can heat a very small boiler for it, this is easily overcome. I believe it is, however, a great object with many to know how to do without any heat from fire, either by so arranging their choice of winter plants, or by temporary means of keeping out the frost by coverings.

In the latter means I would not advise full trust, for though I know it may be done effectually, yet a single oversight on a severe night might cause a large amount of loss and disappointment.

2. In any conservatory which can be provided with shutters closed outside (if the creepers within prevent such an arrangement there), the house may be considered sufficiently protected to preserve Geraniums, Camellias, Myrtles, and all such plants, though not, of course, to grow them. Fuchsias, Heliotropes, and Verbenas would also *live* there, the former only failing to retain their leaves; while bulbs and Carnations, Violets and Auriculas, would do far better than if

there were much heat in winter. They would require, however, a great degree of dryness; and a hot water tin such as is used for warming carriages, or some similar expedient, might be wanted on damp days to dry the air in some degree.

8. Damp, in these cold houses, is the real enemy: many things will endure a little frost if dry, but the slightest moisture often renders a slight frost fatal. Apart from frost, a fortnight of fog or rain is of all things, for such plants, the most injurious. That they will bear cold is evident, inasmuch as I have not lost a single large plant in this last unusually hard winter; and yet, with the exception of a fire one damp day in an open grate, their only protection has been dryness: the Venetian blinds and curtains being also carefully closed at night. These plants, however, were in a room made into a greenhouse, although the roof was not of glass. I only mention the fact to prove that heat is not the necessary safeguard of plants.

4. This part of my stock included *Pelargoniums*, some of which even in March exhibited signs of blossom. I had fortunately kept there none of the fancy kinds, except some newly struck plants; and those I confess, as well as my *Verbenas* and some little seedlings, sunk under a severe watering administered by mistake in frosty weather. The whole of the plants in the watered stand thus perished.

I had Clematis, some Passion-flowers, many Carnations, Primulas, Azaleas, and Myrtles in perfect safety; also some Begonias, which just retained their vitality: but these I had sometimes taken into a room where the temperature at night was not below 37°, and even with this care I lost one of my best plants of that kind. There are many ways, however, of keeping out the frost. Any covering or matting, liable to become wet, is most objectionable, as it cools the house rapidly; all such materials, therefore, should be carefully rendered waterproof.

5. Light deal frames thatched with six or seven inches thick of straw bound tightly down, and covered with some old painted carpet, or old curtains done over with composition or with paint (made with boiled linseed oil), would effectually keep out either frost or damp.

I heard this winter of many pits full of valuable plants for which these coverings were the only protection needed; but their dryness was also perfect.

6. In urgent need, however, some stone bottles of hot water, one or two of Palmer's lamps, or a kettle of boiling water kept boiling by means of a lamp, will really be a most useful help, absurd as it may seem to say so. I name this rather that those who like such experiments may follow out the suggestion, only reminding them that a very

small flame will *keep* water boiling; and that even the amount of water contained in a good-sized urn would be amply sufficient, if spread over a larger surface, to give a very considerable degree of warmth. Probably, however, most people having heat at all would have it regularly kept up; still such little contrivances are very far from useless to remember, as often, in cases of any accident or sudden emergency, they may be the saving of a valuable set of plants.

7. In a conservatory, then, whence frost is just excluded, if kept dry, florist's (but not fancy) *Pelargoniums*, *Fuchsias*, *Geraniums*, *Verbenas*, *Myrtles*, *Deutzias*, *Heliotropes*, *Camellias*, *Azaleas*, *Heaths*, *Primulas*, *Violets*, *Carnations*, and hardy bulbs may be kept and grown in perfect safety. They will (all but the *Fuchsias*) keep their leaves; but few of the plants will blossom much in the two or three coldest months.

The bulbs, however, beginning with December, would continue gay all winter; and they are alone sufficient, amidst a quantity of green, to make a conservatory very bright and gay.

In another chapter, however, I will give lists of plants for cold as well as for heated houses.

It is very desirable to be able to give air on a dry sunny day, as by a window at one side; but this should be done so as carefully to avoid draughts: even in the heat of summer I always fancy that when

plants can be preserved from draughts we avoid a risk of harm. In winter, at any rate, draughts are absolutely destructive of healthy vegetation.

8. Many people are anxious to know what plants they can grow in a north conservatory. A conservatory of that aspect (unless for stove Ferns) need never, as a rule, be warmed at all: the simple exclusion of frost is its right temperature; that is, as long as the thermometer is not below 33°. Any degree of artificial heat, unaccompanied as it must be by direct sunlight, would only weaken and draw up the plants. There is, in such a conservatory, no difficulty in obtaining abundant foliage; but the flowers are very few that would come out there, except in the summer months. For such a place, however, pots of plants can be most easily brought on. Elsewhere I will explain, under the head of "Heated Cases," how very easily and in how little room this may be done; and even in their total absence, southern window-sills and kitchen chimneypieces will effect wonders for supplying the very moderate reinforcements that this conservatory will sometimes need. Most flowers, when once in blossom, retain their flowers there enduringly.

9. Minton's tiles are very excellent for flooring, and for the sides of the beds and hollow shelves. In a tiny conservatory I am having made for my English plants, I have a dark reddish brown tile for the

floor, unglazed: suggested, shall I confess it, by a pleasant remembrance of the fresh and *dewy* look given by these tiles to a dairy floor I used to often haunt.

Where, as in this case, so much green will be unavoidable—for the aspect being north, there will be always a more subdued tone than in the bright south-facing houses—I think the dark red will come in refreshingly, as well as the terra-cotta vases in which some of the plants will grow.

10. My plan is to have a bed very slightly raised filling up the centre. For it I recommend dark rustic work; and each corner, facing the sitting-room into which it opens, should have a group of trees and plants growing in a walled-off, tile-faced bed of soil; a thicker hedge growing along the wall and being trained around the window.

This little conservatory will have outside shutters, so arranged as to inclose a six-inch stratum of dry air between them and the glass; and my only means of heating, as I dislike flues and gas, will be a rather large-sized flat tin case filled with boiling water, and kept hot by a common light placed beneath it: this will be used only in case the thermometer in the open air should go down to freezing. The little frame being placed just in front, and near the ground, the heated air naturally ascends, and diffuses itself equally through the house. Pipes add exceedingly to

the efficiency of such a plan, and a small boiler fixed outside removes any difficulty as to the supply of heat ; but where there is no regular gardener, it is difficult to get the stoker's work properly attended to at all times.

11. By residents in London, English flowers are so seldom seen that I cannot imagine anything more delightful for them than a spot where they can see these flowers growing. To those who know them well they are dear old friends ; and to those who do not know them, they are rendered attractive, at least, by associations of some sort, or by old longings for them.

12. The conservatory being ready, it is an open question whether to sink the plants in their pots, in a bed of charcoal, sand, or moss, or to turn them out of the pots, and plant them in the places where they are intended to grow.

In any case where little weight is an object, the charcoal is very useful. It is also one of the healthiest materials to use for drainage, as it prevents any disagreeable smell or injury from any water that may sink through and remain in the boxes which it fills.

The upper layer, however, should be of moss or cocoa-nut fibre refuse, to give either a brown or green surface ; it also enables the pretty garden mosses and Lycopodiums to root about and run all over the surface of the boxes.

I am much in favour of the system of sinking the pots. Very luxuriant growth is not to be sought for in a small conservatory; and perhaps the leafy appearance of it is best attained by whatever contributes most to a close and well-leaved growth. Growing in pots checks over-luxuriance in size, while rendering the flowers often more abundant.

13. Plants generally flower much more freely when thus having their roots confined; though one cannot too much avoid the exposure of them in pots to heat or cold, or sun or wind, which causes the death of many every year. If brought into dry, hot rooms, or placed on a sunny balcony or in an open window, when surrounded with damp moss in an open wire frame, a little reflection would soon show that the heat of the sun or the draught of wind, causing rapid evaporation from the porous surface, was actually icing the soil inside.

Without the damp moss, the roots in the unsunken pots are baked; no wonder, under such alternatives, that the plants are short-lived.

14. But when the pots are sunk in the border, plants do much better, and are easily changed from place to place, which I think a very material consideration; moreover, after any unexpected death or accident, the blank can be supplied, without any disturbance to those growing close by.

15. I do not pretend to write for those who possess

grand conservatories, yet it sometimes happens that in altering or building, some very beautiful and novel plan may fit in, even more conveniently than an ugly stereotyped arrangement would do. One plan that I have heard of in several places is to have in the drawing-room the usual looking-glass *frame* over the chimney-piece, but filled, instead of looking-glass, with a large plate of transparent glass, giving a full view of the brilliant flowers and hanging baskets of a beautiful conservatory beyond.

The flue is carried up one side in some way, and the usual wide slab of marble retains its place, as do the ornaments and vases that generally adorn it; but the effect of the whole must be, as I hear it described, perfectly charming and most uncommon.

16. The alcove form is again a very pretty style, and sometimes adds a good-sized room to a London house. For a winter garden on a small scale, or to form a most charming summer morning room, nothing can be more cool and pleasant than one of these alcove conservatories, built out from the house, and shaded effectually outside the glass: Venetian blinds and open sashes preventing the admission of too great heat. It might contain large Orange-trees and Myrtles, Passion-flowers climbing up the supporting pillars, with Fuchsias and scarlet Geraniums besides, for the sake of their aromatic scent and delightfully cool appearance, Heliotropes also growing on the

walls, with Mignonette in the shallow beds beneath them ; while stands of plants might be mingled with pretty light chairs and tables, and dark green or crimson curtains for the *portière* might convey the idea of family occupation.

Minton's tiles make neat pavements varied in colour and design. I do not think that the dark red tiles will be found to look hot to any eye which has once seen their dewy look ; but if they are thought hot-looking, the green and white, and the blue and white, are effective in contrast with the plants.

17. I shall refrain from giving a long list of plants which do not succeed, for I have bought my experience dearly, and made the discovery that many a flower which "grows very well" in London and in houses, is extremely worthless when it is grown ; while many, the names of which would lead one rather to decline their acquaintance altogether, prove, under certain circumstances, the most charming and effective that can grace one's stand.

Here, I may as well mention two rules by which I am guided in seeking to increase my stock of available plants. The first being that grand-named plants which have no common name, unless very newly come out, are generally a delusion and a snare to the inexperienced ; as any well-known flower that is worthy of such special culture very soon acquires some familiar name. Those plants even

which retain their learned titles, soon gain, if they are really pretty, household names as well, and thus they become naturalized and are kindly received amongst us. To know that a plant was introduced long ago, is to me the greatest of recommendations; as it is only by sweetness or by beauty that it first becomes common, or afterwards maintains its ground.

18. My second rule regards colour, both of leaf and blossom.

I have not much liking for plants of variegated foliage for in-door use, such as we are now considering. For a north window conservatory, where nothing but green is grown, or for bedding-out large masses, it may be well to give a little colour in the foliage; but, on a small scale, I find it simply patchy: it gives so much the impression of plants that are dying off.

19. For groups of colour meant to be effective, I would recommend every one to study for a short time some of the painter's rules as to the arrangement of colours.

Patchy flower-stands are nearly as bad as patchy paintings: a bad arrangement of colour quite spoils what would otherwise be a very pretty group; and even where, at last, the eye may instinctively lead one right, it is very vexatious to have brought on together a set of plants the colours of whose flowers kill one another utterly, or produce a scattered or poor effect.

It is really surprising how the addition of even one magnificent flower will sometimes make a whole stand look shabby and unfilled.

I will give one instance.—Lately, I saw a flower-stand holding about eighteen pots enclosed by a glass case. It was arranged with seven or eight good-sized Myrtles, Begonias, and Geraniums, some Lilies of the Valley, and some Ferns and Moss. I think there were three—it may have been only two—splendid pure white Hyacinths, two or three bright pale pink ones (very common, but very pretty), one pot of exquisite rose and white Van Thol Tulips, a few Snowdrops, and many pale blue Scillas, and pure white Crocuses, as an under-growth.

The effect, certainly, was most lovely; but just as I was admiring it, a remarkably fine dark blue Hyacinth was added to the plants already there, with a pot also of equally fine blue Crocuses; and when I looked at it again, I was perfectly astonished at the change—the whole looked poor and unsatisfactory. One had a sensation of wishing it to be filled up into a mass of flowers; there was no blending of colours, everything seemed dislocated, and the whole was spoilt. Of course, the obnoxious flowers were very soon removed; but I confess I needed no further lesson on the inexpediency of a combination of purple and pink flowers.

The cold pale blue of the Scillas (*Nemophila* colour, that is) made everything still fresher and more clear; but purple was simply overwhelming *mud*!

The principles applicable to colours in dress, as well as in painting, may very well be applied to the arrangement of flowers. The abundant green, of course, is a very softening element; still there are combinations to be avoided, even with its aid. For example: mixtures—always cloudy—of three or four different shades of one colour, and the juxtaposition of one colour with another containing one of its principal component parts; or of two, of which the separate parts would combine. The fact of scarlet containing yellow, and crimson containing blue, illustrates both my propositions.

Purple, containing red, will not do with pink, while with scarlet it is altogether bad.

Scarlet, crimson, and pink should always, I think, be mixed, each and alone, with white; but with scarlet, creepers of pale primrose, and with rose colour, those of a pale blue, like the Forget-me-nots or Scillas, would often, probably, look pretty, when the other colours had a great preponderance of red.

All the white should be of exactly the same shade. The perfectly clear, pure tint of one colour may suit, notwithstanding, perfectly, with that of another as pure, into which its own colour does not in the

least enter. This being so simple, is always most artistic.

Pink, and pale cold blue—as in the Hyacinth Norma, and Scillas, or the pink Geranium and blue Nemophila, or the pale, common China Rose (full blown nearly) with the climbing blue Passion-flower—are the contrasts that are really lovely. White and crimson, scarlet and dark green, or gray Heliotrope colour and crimson, are amongst the number ; and when many colours must be used, by means of the gray Heliotrope and of white or green, a division may be always made, breaking up (almost imperceptibly, except by the effect) the whole into groups of perfect separate harmony together, like a succession of beautiful varied chords.

It must, however, be remembered that the eye very quietly traces out *intention* of design, so that much greater licence is admissible in the borders and edgings of a vase or bed ; a perfect group within may thus be encircled with a border the colour of which could not have mingled with that group. One tall, graceful plant, rising quite distinctly from such a group, gives to the whole a magical touch of lightness. For this, nothing I know of answers like an Arum ; one of these tall white lily-like flowers rising from a thicket of Ivy Geranium and pink Roses, or from a bed of small crimson China Roses, with a drooping border of Nemophila alone,

is almost as beautiful a combination of form and colour as anything can be.

By arrangements like these we shall equally avoid the charge of being heavy and gaudy, even though our stands are piled and heaped up with red ; or of being poor and thin, even though pale pink and white should be the only blossoms, and these also “ but few and far between.”

The remark made is far more likely to be, in the first case, “ How beautiful and cool are the fresh green leaves ! ” and in the second, “ How lovely the white little waxen flowers peeping out so prettily from amidst the green ! ”

For so it is, that the scarlet, when undisturbed, renders the cool dark green a refreshment to the eye, while the starry white in the other case relieves the monotony of the verdure ; the one green tint, which is not consciously remarked, being that in each instance by which the effect is wrought.

CHAPTER IV.

BALCONIES AND HANGING GARDENS.

1. I CONCLUDE that the greater number of plants to be grown are destined for the greenhouse shelves and for the drawing-room stand, and while all available windows and back shelves are filled with plants, from which to gather the supply of flowers wanted daily for the table vases, we can always add very much to our resources by boxes on a balcony or a roof, even where no friendly garden or back yard admits of the construction of a hooped or otherwise sheltered bed or frame. Thus always, by May or June at latest, we can have many useful and hardy things planted out there, with many sorts of "green stuff" which will be found invaluable for backing flowers in vases.

2. French bouquet-makers, let me here remark, fasten up a perfect mass of green, through which the stalks of the flowers pass ; which keeps them fresher and causes each separate one to show.

3. Common Ferns, under a north wall, are charming now, and sweet Woodruffe, too—a little flower with the scent of new-mown grass ; a scent which it preserves for years after its appearance has become that of a little bit of brown, dried-up rubbish. Mignonette may be sown every month from April to July, in rich,

good soil, mixed with old mortar and lime-rubbish from walls ; for which it is so much the sweeter.

Let me pause to direct that its flowers always be gathered before they form seed, for then it is wonderful how well and how long it lasts.

Scarlet Geraniums, such as Little David, Reedii, and Tom Thumb, do well in a shady place ; and Nemophila, mixed with Mignonette, which shades its stems : for if the sun strikes on its stem, just above the soil, it dies at once ; also Saponaria Calabrica, a pretty pink low-growing thing. Scarlet Verbena, which is so bright, may be trained upon a wall : a tolerably shady wall being best ; and there is the common blue Passion-flower, which grows so quickly. Ivy and Virginian creepers do well for a north wall, and so, above all, does a Vine, whose leaves are so beautiful, and its long, free shoots so wild. With a wall thus covered, and the plants that are here named, and Stocks, German Asters, and Chrysanthemums for the autumn flowers, I think any garden, however unpromising its aspect, would furnish a due return for any little attention that might be paid it.

All these plants and flowers, we must bear in mind, will grow and thrive to a fair degree, even in a little, shaded, London back-yard garden ; whilst a balcony with boxes is really a superior place to grow them in.

4. One thing, however, is necessary, and is well worth attending to, namely, to give the plants good

soil: not, indeed, guano, or manure, properly so called—which I always think does even harm in pots, it being so difficult to give just the right amount; but decayed leaves, or charcoal, with a little lime mixed with it, in the proportion of two parts to one: these are, I believe, nearly the best fertilizers one can use for such plants and situations. Soot is capital, where the smell is not an objection, and it is essentially an insect-destroying manure. Whenever the ground for a little while is unplanted, a good watering with lime-water—two ounces to the gallon, mixed, allowed to settle, and used when clear—is a useful application, extirpating insects that are often numerous and destructive.

5. A balcony is, as I said just now, a capital place for plants, provided the pots are sunk in boxes filled with sand or cocoa-nut fibre. A very good plan is to have rough, common boxes, painted over, and cut to the proper height, in which to sink the pots. Tom Thumb Nasturtium (as it is usually called, but it is a *Tropæolum*) *Canariensis*, Mignonette, scarlet Geraniums, Stocks, and scarlet and white Verbenas are very suitable. Of Verbenas, scarlet ones with white eyes are far the most effective; mauve and crimson ones are good, especially *Teucrioides*, which is a beautiful old sort, changing from dark rose to nearly white; but of all the Verbenas none are so effective as scarlet *Defiance*, *Géant des*

Batailles, and St. Margaret; and of the white ones, such as Mrs. Holford and Snowflake are amongst the best.

For a balcony facing east or west, nothing is better than a collection of white ivy-leaved Geraniums drooping through the iron-work, with white Convolvulus and Clematis; scarlet Tom Thumb Geraniums, very dwarf, filling, with Mignonette amongst them, the space above.

It is well, however, to remember that one day's exposure to sun and wind, if the pots are not in boxes, is enough to destroy their beauty, if not quite to kill them; and watering, I suppose, from the cold produced by evaporation, rather increases than lessens the greatness of the danger. I believe, therefore, on the whole, that in whatever aspect, and however placed, sinking or plunging the pots is the most essential thing for securing thriving and healthy plants.

For balconies and windows, boxes are always necessary, made either of earthenware, tiles, or wood. A very pretty arrangement along a balcony would be made by Minton's tiles covering the front and ends of a box; or the box may be made of zinc, and painted like the tiles.

These tiles, just eight inches square, vary in price from one shilling to two and sixpence each. They are made in green, and blue, and white, as well

as in red and various colours mixed; the latter are the most expensive, and for this purpose certainly the least handsome.

Boxes are in every way most useful if made full six inches deep by eight or twelve inches in width; which allows either for a zigzag double row of six-inch pots, or for a double or treble arrangement of four-inch pots. In ordering boxes reference should always be made to the usual size, both in width and height, of the pots likely to be placed in them.

Common roughly-constructed cases look often very well, either with pieces of bark spread out and nailed upon them, or split pieces of wood with the bark still on, nailed all along the sides and ends. Some apply varnish over the bark; but this, I think, takes off from the rustic appearance: it is not for everywhere, however, that such rustic contrivances are suitable.

Nasturtiums, common as they are, look very green and well; but nothing, I think, surpasses the common blue Passion-flower, the white Clematis, Ivy, and the common *Convolvulus* with its immense white bells.

Scarlet Geraniums, if shaded enough, look well; but the reflection of heat from the wall must not be forgotten, and this, in south balconies, is often a serious consideration.

Evergreens, too, are at once pretty in themselves, and give much of the shade that is so much needed

by the other plants. However, no arrangement I have seen has far surpassed the pink and white Ivy Geranium, with its background of brightest scarlet and its neutral tint of pale, sweet gray Heliotrope.

6. Last summer I was limited for three months to one window for all my garden, and it became really so pretty, and such a mass of flowers, that I think I cannot do better than just register it here.

Two strong pieces of wood were driven into the wall about eighteen inches below the window-ledge; cross bars were laid on them, and an old tea-chest, about four feet long, was mounted on this rough contrivance, filled with sawdust, and left ready for my arrangements. The whole was painted dark brown, and there were strong posts driven into the ground, for the support of the little stage. Such a support was rendered necessary by the many flower-pots accumulating to a very heavy weight; though the whole structure was only four feet long by two feet wide. The height from the ground to the window (that of a little breakfast-room) was just about nine feet, but I am assured that even if it had been higher the posts could have been dispensed with and a support in the shape of a bracket put instead. The whole affair could be removed at an hour's notice, leaving behind it in the wall not the slightest trace that such a structure had been there.

The same carpenter who made my plant-cases

managed this, at a cost altogether of about fourteen shillings.

7. Every one knows that the "summer" last year was not very encouraging for gardening attempts. The vine-branches were, however, absolutely rampant, flinging themselves round all and everything they reached; and lovely transparent leaves theirs were. I wonder whether their brethren in pots would not throw out long branches, and twine as gracefully within a room as those luxuriant tendrils did in the open air last year?

8. That little hanging garden was really pretty: Heliotropes, pale blue and dark; white Fuchsias—though the succession had there rather rapidly to be kept up; the sweet little crimson Rose; a splendid sweet-leaved Geranium; Myrtles, which grew surprisingly; and Ivy Geraniums falling sweeping down. Then there were pots of Mignonette and fair white Arums (*Calla Æthiopica*); four Geraniums of the large flowering florist's kinds, lasting for a surprising space of time, and very little injured, to my great astonishment, by the constant rain; scarlet Geraniums, and Verbenas, white and pink—for it was so arranged that the Heliotropes and green leaves separated entirely the scarlet from the pink, and when one of these prevailed, and yet was not supreme, a pair of scissors soon set matters straight, and rendered to the one colour the undisputed mastery.

The flowers, certainly, lasted wonderfully, considering the weather was so unpropitious; but then the pots were sunk to the rim, and no yellow leaf or fading flower remained for a single day to exhaust or disfigure the plant on which it grew.

PART III.

In-door Garden Calendar.

CHAPTER I.

GENERAL INSTRUCTIONS.

1. I HAVE already described the very simple and easily-managed appliances that are needed for the various degrees to which flower gardening can be carried in the way I write of.

The details and precautions required in potting, watering, &c. have been entered into and discussed, and now I have only to speak of the culture of special plants, and to give a short, but comprehensive, list for each month of those by which a rich display may be continually kept up.

For small plant cases and stands, it would be well to mark two or three kinds for each month's use—a conservatory requiring more variety; which the number of kinds and colours mentioned here

will, I hope, abundantly afford. If my advice regarding the use of evergreens is carried into effect, I think it will be easy to calculate the number of flowering plants which will be wanted. Four-inch pots, when the plants they contain are in blossom, would be sufficient generally if they average from one to three per foot, according to the width of the case, or stand, or shelves, and the degree of gaiety required to be maintained. The number, also, must be regulated by the growth of the plants themselves, one larger plant often standing in the place of several of a smaller size.

With the first week of the garden year we will suppose ourselves beginning to fit up flower-stands, conservatories, and plant-cases.

Much of the ground-work may be well done at any time, and directions for it having been once given it will scarcely need hereafter any further notice. The rules for this are very simple, and I shall endeavour to give, as nearly as possible, the expense of those permanent plants; for it is useless, I know, to speak in general terms, so few people quite agreeing in their estimate as to what constitutes the most trifling cost or a very expensive outlay.

I have always found the three or four plain rules of which I speak simplify the work exceedingly, and tend very much also to keep down the cost of what at the same time, as to beauty, they much improve.

My first rule is, that evergreens of all kinds should be admitted largely, for I have never known them restricted in number, without a sacrifice at once of beauty and of health.

2. Plants cannot bear a very great crowd of flowers, either of their own or any other kinds, especially if at any time in confinement; but evergreens occupy without injury very many spaces where succulent-leaved plants, or those of a softer texture, would both suffer and make their neighbours suffer by the closeness of their contact.

Evergreens form, moreover, a dark and beautiful contrast to the light green shoots which so generally accompany the flowers on other plants, and which, deprived of the darker background, would look poor and ineffective, even when in their freshest and fairest dress.

For economy, besides, these plants are very desirable. The most beautiful of all—the Myrtles, Ivies, Firs, Begonias, and Geraniums—are, at the same time, very inexpensive in their first cost, and are plants that will grow on and on for years, gaining every year in size and beauty, allowing an immense amount of cutting from them for vases, and generously growing all the better for such treatment.

All of these plants may be bought, either singly or by the dozen, at a most moderate price. I will, in

the chapter on the choice of plants, enter into exact details as to the cost of all these kinds.

8. Myrtles, both blossoming and the small-leaved kind, are most lasting and useful evergreens ; Firs are strikingly effective and altogether charming, with their pine-wood scent and the pale green tassels that enliven their dark boughs ; and Geraniums, large bushy plants, of the sweet-scented kind : especially, for conservatories, the scarlet Giganteum, which is so readily trained. Begonias, whose crimson veins and footstalks give brightness almost equal to that of flowers amongst the glossy deep green leaves ; and common Ivy, which grows so slowly that it is quite as dear as many a greenhouse plant to buy, and very much more worth buying than many of them. The very small-leaved sort of Ivy is far the prettiest for indoor growth, but it is also far the most difficult to meet with : even in the country it has been a work of time and of many searches amongst the old trees in the woods to find it.

Still these plants are all well worth some trouble, not only because they are to be long-enduring, but also because they are in themselves so beautiful.

Supposing, then, a conservatory, a glass case, a flower-stand, or a hanging garden ; even a window-sill with its box, to be kept the brighter and greener because its extent is so small and it requires so little ; for each and for all I have a most strong predi-

lection, in counting the pots required, to set down boldly one half for evergreens. Were there any difference I should even say let the excess be in their favour; and it must be remembered that evergreens themselves are not flowerless.

I stopped to count the plants in a miniature greenhouse of my own, from which I had removed many pots of flowers which had seemed too numerous, and I found that the pots of evergreens (including Ferns and Mosses) were as two to one of the plants in flower; yet the latter were sufficient to make it look most brilliant.

The chief secret lies in having good distinct colours showing amidst the green; the half-hidden flowers are a great charm, and I think that the various tints of paler and darker green are, for an object continually before one's eyes, more attractive than a very gay mass of colour. I would not, of course, arrange the conservatory shelves and stages, any more than the drawing-room stands and cases, with regular formally-placed lines of alternate plants; but would place them rather in groups and masses—masses in proportion to the size of all—with the flowers coming in amongst them and lighting up the whole.

4. The principles that hold good in the woods and fields, and for arranging garden beds artistically, are just as good and just the same, though the scale is different, when the garden is contracted into a little

space and placed on a bright carpet, or on a pavement of tiles, instead of on a lawn of turf or an expanse of gravel.

Here we are reminded that, to the eye, the carpet and the gravel are rather to be classed together; and we know (at least all who have gardens) that on gravel we have to make much of green, and that an outcry is always raised for good green edging plants; so, on the conservatory pavement, or on the carpet of gay colours, we equally require the same cool, green frame.

Dark green Ivy, or the paler Ivy Geranium with its long-stalked white blossoms, is very bright and fresh-looking, when sweeping down in graceful wreaths over the edges of the spacious stand. Ferns and Lycopodiums are most successful also, and, being near the edge, are often the better seen.

After this line of green there might be some very gay rows, still interspersing Myrtles and Begonias pretty freely, till in the centre might be some beautiful plant in blossom, or some tree of beautiful shape or foliage.

For the conservatory, I would recommend, moreover, many trained Camellias, Ivies, Ipomeas, and dark-leaved Creepers; also large Myrtles, trained against the wall.

High piles of evergreen in each corner—even Firs, especially in an “English house,” would look very

graceful and very well ; and at present, anyhow, they are tolerably uncommon.

In London, indeed, I wonder that persons who do not wish to have a heating apparatus or much trouble of any kind, do not have these "English houses," which need only once be planted, and sometimes watered afterwards ; for even without much blossom, as in a north aspect, the green itself would be a welcome exchange for the opposite roofs and houses.

5. For the glass case, supposing it to be three feet long by eighteen inches wide and two feet high, two or three Myrtles, one or two Geraniums for foliage, and a Begonia, are quite few enough, even with Ivy trailing along the top ; and at least one pot each of Maiden-hair Fern and *Pteris longifolia* (one of the best and easiest grown of Ferns), and two of *Lycopodium denticulatum*, *L. stoloniferum*, or some such prettily creeping, moss-like plant, should be added. This is allowing space for ten or eleven permanent occupants ; and as a case of the size I have described properly holds about eighteen five or six inch pots (of course, a far larger number if the pots are only of four-inch size), my own plan is, generally, after establishing the permanent inhabitants, to have a large number of plants in the smallest pots they will thrive in, and thus to be able at any time to add to the number of flowering plants, and to remove or exchange such as begin to wither.

A case of this size requires a capital to draw on of about one dozen and a half of plants in blossom for each month.

6. For a conservatory, the same arrangements are needed on a larger scale. With flower-stands, also, the number is again multiplied; but these pots, being small, occupy little room, and a judicious changing about may make many supply green foliage in one place, till, coming into blossom, they have to be moved for a while to a more conspicuous, though not more useful, position.

I will add hereafter, as I have said, a list of useful evergreens, both for balcony, flower-stand, and conservatory use.

7. The treatment for all the Myrtles, Geraniums, and such green plants, is most simple. So long as the plants grow quickly, water freely, so as to prevent any falling or flagging leaves; when growing slowly give them but little water; and if they can be spared to stand out a few weeks in the summer on a sunny roof or balcony, or on a stand, or coal-ash bed in the garden (providing that worms may find no entrance to their pots), they will be much the better, and much the hardier, for such treatment. When taken in, very little water will keep them a long time unflagging, especially if they are placed upon some dampish sand.

8. The leaves at any time, if dusty, are benefited

and beautified by a sponging with lukewarm water; both the upper and under surface should receive this treatment. It is also well, occasionally, to gently loosen the surface of the soil, taking away some, and replacing it with fresh soil, pressed tightly in. With this treatment, say twice a year, Myrtles, &c. do not need very large pots: some of mine, about eighteen inches high, and bushy, are in pots of only five and six inches in diameter.

The culture of Ferns and Mosses, and also that of the Begonias, will be given separately. The rules I now give apply only to the hardier plants.

In concluding these general hints, I must repeat how much of the beauty of the whole of the display will be found to depend upon the healthy look and the abundant supply of evergreens, such as, lasting through all the seasons, become every year more firmly established in the places which they so beautifully fill.

CHAPTER II.

PLANTS FOR EACH SEASON.

1. *December, January, and February.*

BULBS, including *Scilla Siberica*, *Narcissus*, Van Thol Tulips, red and white, and pink and scarlet; Snowdrops, Crocuses, and Hyacinths of every shade and colour; *Cyclamens* and *Anemones*, scarlet especially, and blue *Anemone Apennina*, from tubers planted early and from spring-sown seeds; *Begonia fuchsioides*, with its drooping blossoms like red coral, and its gracefully bending branches, and other sorts of *Begonias* grown in warmth; *Fuchsia serratifolia* and *dommiana*; China Roses, prevented since June from blossoming or struck in spring; *Epiphyllum* (jointed Cactus); *Deutzia gracilis*; *Geraniums* and *Pelargoniums* sometimes, and *Heliotropes*, if not allowed to bloom in autumn; *Primulas*, white and lilac, which last very long in a warm, moist, and at the same time light and well-aired place, the single being far the hardiest; and the *Mimulus moschata*, or Musk plant, if its scent is wished for. As to the latter, the same pots kept on year after year do best; letting the plants go to rest always by June or July, taking them again under a moist, warm treatment about November.

Then there are blue Lobelias and the *Coronilla glauca* grown on from summer; *Mignonette* sown in July, and kept from flowering before; or tree *Mignonette*, which is one of the most delightful plants there is, and one of the very pleasantest to grow.

Chrysanthemums still are blossoming; the various *Tropæolums*, too, sometimes, and the perpetual (or tree) *Carnations*, as well as other kinds of *Pinks*—*Anna Boleyn* for one; and the pretty red *Indian* or *Chinese Pink*, in a very little warmth, will flower all the winter.

Then there are *Heaths* (or *Ericas*), which require air, without draughts, and must never be allowed to become quite dry; *Daphnes*, *Camellias*, and the exquisite *Azaleas*, which are plants easy to keep long in beauty; *Epacris impressa*, too, and the little *Rhodoras*: but they, like the forced *Lilacs*, though very pretty, are often nearly leafless. Plenty of other green foliage there is, however, such as *Ferns* and *Lycopodiums*, *Geraniums*, especially the uniques, crimson and purple both, and the *Aloysia citriodora*, which grows immensely large.

Of *Myrtles*, both large and small leaved, one never now sees half enough; the *Sweet-briar* and the *Orange-tree Geraniums*, with my favourite ivy-leaved sort, are also available, and *Ivy* itself is always well worth admitting in some shady corner.

Every one has their special favourites amongst flowers; so as all these are beautiful or famed for sweetness, every one can select from amongst them those they prefer to cultivate.

2. March, April, and May.

At first these are but a repetition of those blooming in February, but getting more and more to flower without forcing.

BULBS, including Tulips, Hyacinths, Narcissi, and Jonquils, Lilies of the Valley, Anemones, and Cyclamens, with Ranunculuses also amongst the tuberous roots.

Primulas and Auriculas, which, I think, are not grown half so generally as they deserve; Deutzia and China Roses; Fuchsias—the charming *globosa* is a favourite of mine; Geraniums and Pelargoniums, Heliotropes and Verbenas, Calceolarias, Carnations, Azaleas, Heaths; Camellias and Daphnes, especially the delightful *D. odorata* (Indica); sweet Verbena (*Aloysia citriodora*), with its fragrant leaves; Myrtles and Geraniums at all times for their green. Ferns, too, in pots and baskets—the more the better. The delicate Woodruffe and yellow Primrose, the Periwinkles and Cowslips, Blue-bells and wild Anemones, all remind us now and then of their own wild woods. All these grow generally well on the shadier side, without needing much dry air or sunshine; and then

there are Acacias, Genistas, and Rhododendrons, with *Nemophila insignis*, for bright cold blue; *Arunas* (*Calla Æthiopica*), and *Mignonette* of course, which any one with plants would hardly like to be without. Stocks, in May, are coming out; and Wallflowers, though so common, have a scent which makes them deserving of very kindly notice.

Violets I do not mention, because they are so very difficult to keep in London. They require no hot sun, but a little water daily, the pot standing in moist sand; plenty of air and light also are necessary, if they are to have any chance at all, and every faded leaf or flower should be removed as soon as seen.

3. *June, July, August, September, October, and November.*

What plants are there that do *not* flower now? We have Roses, Geraniums, Verbenas, *Heliotropes*; *Achimenes*, *Begonias*, Carnations, Pinks and Pansies; great white Lilies, and the lovely *Lilium longiflorum*, one of the Japan kind; Cactuses, Campanulas; *Lobelias*, and *Tropæolums*—the two latter so charming for the hanging-baskets—as well as the creeping Ferns; including *Adiantum cuneatum*, which is almost the best of all.

For climbers there are Passion-flowers, *Calystegias* (remembering well that beautiful white Bindweed or

Convolvulus), Honeysuckles or Loniceras, Clematises, Vines, *Cobæa scandens*, *Maurandias*, and many Roses—the Banksia, Ayrshire, Ruga, and Macartney deserving most special mention.

During all these months the more assiduous one is in cutting off fading flowers, and even in preventing some few—*Chrysanthemums*, for instance, and scarlet *Geraniums*—from coming on too fast to flower, the better are the prospects for November blossoms.

4. November is naturally the most sad and desolate of months, although, by a little forethought, it may be as bright as any. *Anemones* sown in February; Japan Lilies kept back a little; and *Sedum Sieboldii*, with its long pink sprays, so pretty for a basket plant, may be had in flower. Three baskets, Fern in the middle, *Sedum* and blue *Lobelia*, one on each side, are a very pretty set.

Then there are the welcome gay *Chrysanthemums* (just at their best time), the remains of *Geraniums*; the few lagging sprays of *Heliotrope*, and the relics of *Mignonette* that have escaped the frost. Thus, with the crimson China Roses also, no case need be flowerless, no greenhouse dismal.

CHAPTER III.

SPECIAL PLANTS, AND THEIR CULTURE.

1. BULBS.—Bulbs are the most important of all the plants for in-door gardening. Knowing which good sorts to select is one great thing towards success.

It is most important to purchase the supply the very earliest day possible after the bulbs arrive. It is unnatural to all bulbs and roots to be kept out of the ground; and I think, especially for pot-culture, the sooner they are planted the better. Those that are not wanted to be forced can be easily kept dry: *kept* dry, I say; do not let them *become* dry after once being wet, as that is the ruin of all bulbs.

2. I take pots four inches across, and plant in them quantities of those called "border Hyacinths;" and in soup-plates filled with sand, many of those called "miniature Hyacinths," in which I delight exceedingly. They make beautiful groups, surrounded in each case by a fringe of Scillas and of Snowdrops.

The pots (four inches diameter, or others just the size to hold three Hyacinths) I fill as if for seeds or cuttings, only with a good third part of sand. Placing the bulbs on the soil, which is put in very lightly, I then press sand, mixed with a little soil, rather firmly

over the edge of the bulbs; of course observing to leave out their upper part or crown. This is a very good way of planting all bulbs, so I need not repeat the method. Hyacinths are often thrust out almost from the pots, by the roots pushing into the soil; but mine, thus treated, have never risen in the least.

3. The bulbs that I wish to come on quickly I pot in moistish soil, and take care that it does not ever become too dry. All are placed equally in a cellar, or some cool, *perfectly dark* place, for at least a fortnight or three weeks, that the roots may begin to grow before the leaves are stirring. After this a day or two in a lighter place, on a chimney-piece for instance, and then a place in the forcing-case, at the coolest end close to the glass, the pots being daily turned round, brings them on most capitally.

I should only put just the number really wanted into the forcing-case at first: they last, in winter, such a very long time in flower. Those in the windows are often ready in January to fill up, at least with a very few days of heat, just when the flower stalks begin to rise; which has the excellent effect of both bringing them out rapidly, and causing the flower-stems to rise particularly freely, though far from being too much drawn. I have not this winter had to use a support in a single instance to my Hyacinths thus treated, though the heads of bloom

were very large and beautiful. A cool case, or a greenhouse, or a drawing-room stand, is afterwards the proper growing place for them.

4. If there are, to use for bulba, any fine old china bowls, nothing well can surpass in beauty the following arrangement. Any common soup-plate, or basin, does to grow the bulbs in at first, and when ready to display their flowers, they can be gently lowered by ribbon machinery, crossed underneath the plate or bowl, into their china outer casing. Anything, a plate or saucer, tin dish or glass, will do, when filled with sand, to grow them in.

These bowls of flowers are very beautiful when planted: one miniature Hyacinth in the middle, *La Candeur*, perhaps; four or six others round it, according to the size of the bowl, putting alternately one white and one coloured, all of the same sort respectively. A beautiful dish is made of one *La Candeur* in the centre, and *Ami de Cœur* and *La Candeur*, alternately, in a ring all round, with the beautiful little blue *Scilla Siberica* mixed with them. Three round the centre bulb, and a close row round the outer circle, whether mingled or not with *Snowdrops*, make a lovely fringe.

Other arrangements are very pretty; with *Van Thol Tulips* for instance, and *Crocuses*, white or versicolor, as a rim all round; these being all pressed into the dry sand, keeping them carefully upright.

The sand is afterwards slightly moistened, and, from the time the dishes are brought into the light, kept wet. The best mode of proceeding, however, is to lay in the empty dish a foundation of wet sand, as then the lower part of the bulb alone is damped while the upper part of each remains quite uncovered and therefore dry.

The dishes, as well as any water-glasses (the bulbs just touching, hardly touching, the water in them), should then be put where they can be quite in darkness, and being taken out when the roots are fairly an inch long, and filled up gradually with sand (and moss when they begin to flower), they will rapidly come on when placed in a light, airy window, and thoroughly supplied with water. They will blossom quite as early, and even sometimes earlier, than those in pots.

I will now give a few directions as to special bulbs, with the names and qualities of a few good ones very well adapted for sand or water; though, if well grown, all Hyacinths do certainly best in pots.

5. HYACINTHS.—Of these the single sorts are very much the most effective. The best I know are *Norma*, an immense spike of long, pale, pink bells, coming out among the very earliest of all. *Grand Vainqueur* and *Grand Vidette* of most perfectly pure white, and *Victoria Regina*, which is one of the finest and largest kinds; whilst *Grootvörs*, a beautiful double

blush, Grootvörstinn, a new double white, and La Tour d'Auvergne are, I think, the very best for those who wish to grow double flowers. In single yellow, Hermione and La Pluie d'Or are pretty; and in blue or purple, Baron Van Tuyl and Charles Dickens have most splendid spikes of blossom.

The mixed border Hyacinths in sunken pots have also an exceedingly good effect; for boxes in the windows outside, or for the greenhouse stages, they are invaluable. The miniature Hyacinths—Grand Vainqueur and La Candeur, single white; Ami du Cœur, and Diebitsch Sabalskanski, pink—are very, very pretty. The following are double: Anna Maria, white; Bouquet Tendre, red; Lord Wellington and Baron Von Tuyl, blue.

6. TULIPS.—I have treated these as Hyacinths, and with great success. The *Cottage Gardener*, in which I have great faith, says, however, that it is good to start Tulips together in a box (of course, in darkness and with little moisture, &c., the same as for Hyacinths), and having started them, afterwards to choose out the forwardest and those most on a par with each other, for filling the same pots, so as to have them all in bloom together. This plan is worth trying certainly; for sometimes Tulips may be kept in a warm room for weeks without their starting. When they do begin, they grow on quickly and beautifully, like the Hyacinths, with Crocuses in plates of sand.

My favourite plan is to put three bulbs into a small pot—a “large sixty.” They grow to perfection, and fill up any vacancy so gaily, and the Van Thols, especially, are so very sweet that they can hardly be too numerous. The Van Thols are all of them about four inches high, and bloom the earliest by far of any Tulips, being out early in December. I especially recommend the single red, which are the earliest, rose and white the next; the scarlet sorts, and the double yellow Tournesol and double dwarf Van Thols come last. I do not pretend to do more than name what I know will give a bright display of colour; my taste might not suit others, so I do not pretend to name the fancy sorts: besides, the trade lists describe them sufficiently well for any one to choose from.

7. CROCUSES.—I should advise any one to ask merely for such a number of the largest clear white, all of the same sort, dark purple the same, yellow the same, and a quantity of Cloth of Gold, Cloth of Silver, Scotch, and versicolor. These four are all good old-fashioned kinds.

8. NARCISSUS. — Double Roman and Bulbocodium; if treated like the Hyacinths, the former will be out by Christmas. “The name Narcissus,” says a botanical book, quaintly, “is derived from a youth who fell in love with himself, and died of it. The first part of the story is certainly not

of uncommon occurrence, though the latter may be."

9. For growing bulbs—such as *Hyacinths*, *Narcissus*, *Scillas*, *Snowdrops*, *Tulips*, *Crocuses*—in water, more care is necessary in the first instance in choosing large and very healthy bulbs. Single ones succeed best; and it is always better to tell the seedsman of whom you purchase your bulbs, whether they are for water or for sand, or for growing in pots of soil.

The bulbs should be placed in water as soon as they can be purchased in September. Nye's *Hyacinth-glasses* are, I think, far the best, as they do not require support to keep the flowers, if well grown, upright; but for forcing in glasses, those of the old-fashioned shape take much less room: indeed I have often used a common tumbler full of sand, than which I know no better means of saving space.

The bulbs, in any case, whether to be grown in wet sand, or water, or moss, should never more than barely touch the water, and scarcely do more than touch the sand at first.

Placed in this way in the glasses, or just standing upon the sand, they should be put into a cool, dry, perfectly dark place for a fortnight or three weeks till they have made roots fully an inch long.

Afterwards, they should be brought into a light, cool room, and, after a few days have elapsed, sand

should be put nearly all over the bulbs that grow in it; the water also being raised *a little* higher for those grown in water-glasses.

A few pieces of charcoal about as large as a nut are very beneficial to the roots and will preserve the water fresh. I very seldom change the water of my plants so long as it does not become unpleasant. Putting the glasses in a light south window by day and on the chimneypiece in the evening, hastens the growth of Hyacinths very much; and when the flower-stalks begin to show, if they do not grow up freely (as is often the case with those brought on early) rolling a piece of thick drawing-paper up into a conical form, gummed or pinned, or sealed, so as to keep its shape, and leaving a small opening at the point, will soon bring them up: but under a glass this is not needed.

If the bulbs become mouldy they should be wiped gently with a soft silk handkerchief, and a little sulphur should be dusted over the mouldy place. No other plant should ever be allowed to touch the mouldiness, or be in the way of the dust it sometimes makes when taken off; for that dust is a cloud of seeds, and will sow the mould upon the plants it falls upon. The bulbs, however, are none the worse for it, if attended to in time.

The little side offsets should also be noticed, as, for glasses, they are generally better broken off at

once, having an awkward appearance, and injuring the flower.

Placing the bulbs for a few days in even an unheated case, after the flower-buds show, is the best mode I know for getting them both to rise and to open quickly. If in heat, however, for very early forcing, they should be taken out as soon as they begin to open, and have abundance of light at all times.

CHAPTER IV.

SPECIAL PLANTS, AND THEIR CULTURE.

(*Continued.*)

1. ACHIMENES.—These well-known flowers are very beautiful, forming rich and perfect masses of bloom when well grown; and they would do well in baskets. The blue *longiflora*, the scarlet *picta* and *coccinea*, and the purple *grandiflora* are well-known sorts, which have to be kept dry all the winter after flowering, in pots or baskets of dry sand, and in some place where they will *never* be at a lower temperature than about 45° nor higher than 55°. If brought in January or February into the forcing-case and allowed some moisture, they soon begin to grow

rapidly. They should not be exposed to very hot sunshine; the greenhouse or a glass case is, therefore, as good a place as any for them till April or May; after this a hot moist place is best for them till they flower. Very little water should be given when the flowering is over, and then they should be placed in some warm sunny spot; the pot not requiring to be sunk. Six or seven roots should be put in a five or six inch pot, and covered about three-quarters of an inch deep with a soil formed of equal parts of sandy loam and leaf-mould.

2. GESNERAS and GLOXINIAS are very similar to Achimenes as to the treatment they require. They produce, almost all, crimson or scarlet flowers, and may be kept in blossom by successions, like Achimenes, for many months. They must not, however, be watered much overhead, because of their woolly nature, though they require, while growing, a regular supply of water.

3. FUCHSIAS may be raised by cuttings of short side-shoots in February and March, and grown in about four-inch pots, in good light soil; the pots being sunk and regularly watered till after the plants have done flowering, when they may stand full in the sun for the wood to ripen, receiving only a little water.

These plants just kept from frost will do well all winter, even in a dark shed or cellar, or under the

greenhouse shelf; but they must be allowed to become quite dry. Early in spring they require potting in light rich soil, the old soil being shaken from the roots, which should be reduced in size; the plants being then placed in a temperature of from 50° to 55°, with light, air, and regular watering. *Fuchsia globosa* is a beautiful little plant; also Vanguard, Bopeep, and Souvenir de Chiswick may be selected for crimson flowers; of the white sorts, Duchess of Lancaster, Clio, Fairest of the Fair, and Princess Royal are very good; and of the dwarf kinds, Tom Thumb, Catherine Hayes, and *globosa*.

They need a little pruning when brought out in spring, and keeping in shape afterwards. If placed suddenly in a dry, draughty place, or if allowed to become very dry, with the sun on the pot while in blossom, half the buds will fall off. A *Fuchsia* suffering from such a mischance must be *gradually* exposed to different treatment; by placing it, at first, only in very moist air, and watering moderately afterwards.

4. VERBENAS.—For pots, or baskets, or training on trellises and walls, or for the railing of balconies, and for hanging gardens, there are few plants more useful than these: quick growing, gay flowering, and needing but little heat, they are amongst the easiest of all plants to manage, if we avoid for

them in winter too much, and in summer too little damp.

The little side shoots, which root everywhere almost of themselves in August, should be potted in small sixties, and placed in dry sand level with the top of the box, in November, with a layer of charcoal, just kept slightly moist at the bottom of the box they stand in; for they will not bear being very dry. Dead leaves and green fly must be watched for and removed, and air given on all dry, fine days. By such treatment they may be kept on in any out-of-the-way corner; in the greenhouse many of them would blossom, but for plants to make cuttings from in spring, they are best kept cool.

Robinson's Defiance, Géant des Batailles, Beauty Supreme, Mrs. Holford, Helen, Mrs. Woodroffe, and the old Teucrioides, are amongst the best. Cuttings struck from the old plants in March, and then again the points of those cuttings struck in their turn, will give plenty of young plants. The shorter the cuttings are the better, and the best way to strike them is in sand and water.

5. CALCEOLARIAS require much the same treatment as Verbenas, excessive dryness and heat being very bad for both. Amplexicaulus and Orange Boven are very good varieties.

6. FERNS.—For baskets, the Maiden-hairs, Adiantum cuneatum, A. formosum, and A. assimile; and

the Haresfoot, *Davallia dissecta* and *D. bullata*, are exceedingly elegant, generally covering the basket with their graceful fronds. Cocoa-nut fibre refuse, obtained from the husks chopped up, is of all things that in which they best succeed. For pots, besides those above named, there are of *Pteris*—*P. scaberula* and *P. longifolia*; and *Aspleniums*, *Gymnogrammas*, and other *Adiantums*, including the beautiful *A. capillis veneris*, or English Maiden-hair. These are only a few which strike me as very good to grow. They require generally shade and moisture: I move mine about till they seem to find a place that suits them. For surfacing and neat low undergrowth the *Lycopodiums*, or *Selaginellas*, are very desirable. *L. denticulata*, *L. apoda*, *L. flexuosa*, *L. formosa*, and *L. viticulosa*, are good kinds. They ought not to become dry, and decaying fronds should always be at once cut off.

7. *BEGONIAS*.—These need warmth and moisture, and should not be below 45° even in the winter. With too much, however, of dryness, or of moisture, the leaves begin to flag or fall. To remedy this, if wet, give air, and if dry, give moisture, whether to the soil or to the air; for though easy things to grow moderately well, it requires a delicate balance to keep *Begonias* in the perfect beauty of which they are capable. *Begonia Dregei* is a lovely little plant, with pale green satiny leaves edged with crimson;

fuchsioides is also beautiful ; and coccinea, semperflorens, and the tuberous-rooted discolor are all beautiful for foliage as well as blossom : rex, and many others, are valuable, too, for their bright, variegated foliage.

8. ANEMONES.—Kept cool, and in a light, airy place, not too wet, they blossom in pots delightfully. I have seen their flowers all through the autumn, winter, and spring. The autumn ones were, I was told, from seeds sown ten months before. The others should be planted about three months before they are required to blossom, as they will not bear forcing, but only keeping from sharp frost and wet. Single blue and scarlet Anemones are the best; though mixed ones, besides, are well worth growing, and last, either cut or growing, a very long while, closing up at night while in the dark.

9. ARUM, or Calla Æthiopica, is another most charming plant; its large, broad leaves and white scroll-like blossom looking so peculiarly graceful. I know of no better centre for any bright-coloured group of flowers than this. It does well in a room or greenhouse, if duly allowed to rest after flowering—that is, to be rather dry. At other times it should be placed in a saucer with a layer of sand, constantly kept half full of water. It is necessary to be careful not to break the leaves: all plants of a similar kind suffer much from the loss of a single leaf.

10. *CYCLAMEN PERSICUM*, when planted in October, requires a four-inch pot of rich, light soil, a little warmth and moisture, and plenty of light. It is extremely pretty. After flowering it is better to let it remain in the pot, laid on its side, and kept quite dry.

11. *LILIES OF THE VALLEY* succeed best in the same pots year after year; they will blossom, if put into a forcing-case about four weeks before they are required, and may be had thus in close succession all through the winter.

12. *CHINA ROSES* grow by cuttings of young shoots in sand under glass from March until May, to flower the next winter; as the old plants do if the buds are pinched off in summer. They need light, and to be grown on gradually in heat and hardened off also by degrees.

13. *PERPETUAL CARNATIONS* and *PINKS*, sown under glass in March, should be pricked out two or four in small pots, grown on in a cool place under shelter, and potted again as they attain a good size. They flower in winter or the following spring. I saw in the *Cottage Gardener* a plan for carefully taking up *Pinks* early in December from a border, potting in six-inch pots, and placing them near the glass in a forcing-house ranging from 55° to 70°. If kept well watered, they will be full of bloom early in February. This seems a most simple and effective mode to try,

but they must be removed to a cooler place before the flowers open.

14. PRIMULAS, SINENSIS FIMBRIATA ALBA, or fringed white Chinese Primrose—the only variety I would guarantee to be successful—should be sown in the forcing-case, at the cool end, in March or April, and the seedlings pricked out when up, four in a small sixty pot; the pots plunged as usual, and kept just not dry, but a little warm, and with some air; going on thus all summer, and after July standing them on a cool shelf, or in a cold frame shaded. When coming into flower (about November, in four or six inch pots) they should be put into light and airy places, and have sufficient water. These are very nice greenhouse plants, and last very long in flower, at which time they do better for being very warm.

15. GERANIUMS need light, air, water, and fresh soil in spring, and planting out, or placing in a hanging garden, about May. They rejoice in any amount of water overhead, and the more they receive the better they grow. Cuttings should be struck in March in the case, and in July out of doors or anywhere. Small pots and poor soil suit them well, and they look remarkably well trained on a greenhouse wall, with the ivy-leaved pink and white drooping also from the edges of the stands. Trentham scarlet or Crystal Palace, Reedii, and

Little David are good of the old Tom Thumb class. Cerise Unique, Citriodora, and Red Rover are very well worth having, and the Horseshoe ones generally also; but the Fair Helen has a peculiar and very disagreeable scent.

16. PELARGONIUMS require the soil to be firmly pressed into the pots, and to be well drained, and watered regularly; a quantity of yellow leaves always testify to the least neglect.

I have described already that, in winter, they require very little warmth when dry, but cannot bear any frost if damp. The dryer and harder the wood becomes in autumn, the more easily they will endure the winter. They should be re-potted, and the points of the shoots taken off when they first go out of flower, then they will quickly send out a new stock of buds; and when these are over, and the stems are three parts shortened, they may stand full in the sun (the pots being shaded) for some weeks, to prepare for their winter treatment. The following are all good: Etna, Eclipse, Fairest of the Fair, the Bride, British Queen, and Empress Eugenie. The fancy kinds do not thrive well under 40° or 45° of temperature in winter; neither will they bear becoming very dry. Cloth of Silver, Alba multiflora, Jem, Evening Star, Madame Van der Weyer, Mrs. Turner, and Othello are all very good, though by no means new.

17. **HELIOTROPES** are among the easiest and best of plants to strike in spring, and to climb on trellises ; if in a greenhouse, planted in a pit or in a large box, they will entirely cover the side up to the very roof.

18. **SWEET VERBENA** (*Aloysia citriodora*) needs keeping in the greenhouse, except in very fine warm weather, when it can be sunk and slightly shaded. I like putting a second pot under tenderish plants like this, so as to exclude worms, and to prevent its rooting through into the ground, or for fear of any check in moving.

19. **STOCKS** are very sweet, sown early, potted off singly in very small pots, and allowed to get "pot-bound." After a few weeks they should be potted into four-inch pots, plenty of water being given, with air and sunshine. This is a good way of getting double flowers, if from really good German seed. There are various sorts and colours : Double dwarf German, Ten-week, and Emperor Stocks are as good as any ; Brompton Stocks do not flower till the second year. But I think buying seedlings of all biennials is by far the best plan, when wanted only on a small scale.

20. **CHRYSANTHEMUMS**.—For greenhouse and indoor plants, to make gay the time between October, with its frosts, and January, with its lengthening days, there is no plant half so brilliant for all cut-flower purposes as these Chrysanthemums.

To have them well, I believe the best way is that described by Fortune as the Chinese fashion. The cuttings taken in March or April, from the points of suckers or young shoots, are potted off immediately when struck, into the pots in which they are to flower. The size of the pots is usually eleven inches; but for a lady to manage, I should think those of seven, or eight, or nine inches would be full large enough. Generally, also, plants have more blossoms in smaller than they have in larger pots.

The soil should be, one part leaf-mould to two parts of loam, well drained; the quantity of manure so often recommended is, I think, practically much better let alone. The plants are best kept tolerably cool, and out of doors, not touching each other; the pots should be half sunk in gravel or coal ashes, and watered thoroughly overhead. They should be taken into the house early in October, thoroughly watered and also syringed; and the more air they have, when it is not too cold, the better they will succeed.

For very small plants with abundant blossoms, a few layers can be made from the points of shoots in July or August, two inches only of the tops being left out of the small pots in which the stem is buried; this being slit, and kept in its place by a peg or hook.

The Chinese method of making some cuttings is,

having slit the stem, to wrap it at the same place in soil covered with gutta percha, and I fancy that these would make the prettiest-shaped plants of any. These ought to be about ten or twelve inches high, and with not less than half a dozen blossoms. Perhaps cocoa-nut fibre refuse might be useful here : it is said to be most excellent for covering the tops of pots, and, I believe, almost all plants are the better for its use.

For good sorts of pot Chrysanthemums the following may be named : many of these are old sorts ; but the new can be bought anywhere for their newness, while the following are all recommended as being very good : — *White and blush*—Perfection, Queen of England, Defiance, and Vesta. *Pink and red*—Themis, Hermione, Lucidum, and Dupont de l'Eure. *Yellow*—Plutus and Annie Salter. *Chesnut*—Christine, Sainte Thais, Bob, Fabius, Nonpareil, and Chrysippe.

Of Pompones, which are the best for pot plants, unless made dwarf by layering : *Chesnut*—Bob and Sainte Thais. *White*—Andromeda, Nelly, and Cedo Nulli. *Lilac*—Helen, Mrs. Dix, and Duruflet.

21. **TREE MIGNONETTE.**—For this, it is best to take a five-inch pot, drain it well with bits of charcoal and old mortar, and then fill the pot with rich fresh loam, having a handful of lime-rubbish broken small and mixed in with it. Manure is very bad for

room plants; they have incessantly to be thrown aside if it is used, and the plants do fast enough with vegetable manures—salts and charcoal. The pot should be firmly filled to within half an inch from the top, a few seeds of the Giant Mignonette scattered on it, and in the middle of the pot, three or four seeds placed carefully, to ensure having there one good plant. A stick about two feet long should also be run down the middle to the bottom of the pot, and to this, when well up, the young seedling chosen to form the plant should be tied loosely with worsted. Two other sticks had better be put in, as three plants may be tried in case of any accident to the first. The pots should be sunk in a tolerably shady place, and well and regularly watered; but the drainage must be perfect, and worms carefully kept out, as the soil ought never to get sodden or have to be disturbed. The flowers and points of the young shoots, after the second joint, must be all pinched off as they appear, until the time when it is meant to flower. I find a little of the old sand and mortar from the fowl-house one of the best fertilizers to mix with the soil, all dry and powdery as it is. The same treatment as to pots and soil is at all times good for Mignonette, being that specially recommended by the Journal of the Horticultural Society for that which is sown in August for Christmas blooming. All Mignonette

requires air and light, and to be kept from any frost. It should be sown always every month from January to September, four or five plants being left in each pot; every bit of seed, at any rate in winter, as also yellow leaves, being cut off with sharp scissors, to keep the plants strong and healthy. When flowering, Mignonette needs moderate heat and sunshine to make it as sweet in winter as in summer.

22. HANGING PLANTS.—Dark and pale blue Lobelia, the pretty pink Sedum Sieboldii, Maurandya; Milfoil (*Achillea tomentosa*), yellow, bright looking and low drooping; the Bindweeds, and the pretty little Linaria cymbelaria; Ipomea hederæfolia, the plant so much used abroad, and so wonderfully free from insects always; Adiantum cuneatum, Davallia, and Lycopodiums, with other plants growing out amongst the Lycopods, are among the best.

Any one can see at a glance what plants will look well in a basket, and every plant that will look well may at least be tried; first filling the basket with a mossy lining, and then planting in it the plants selected.

23. ENGLISH WILD FLOWERS.—Wood Sorrel (*Oxalis acetosella*), Herb Robert, or wild little pink Geranium, dwarf pink, and great white Bindweed, or Convolvulus, the graceful Wood Anemone, the little Snapdragon (*Linaria cymbelaria*), and the exquisite blue Harebell, all live and thrive in a London room

under the shelter of a glass, and with a tray of peaty sandy soil in which to grow. All those I have named would grow in the same case; and some curious "rocks" of limestone fossils, or of some odd stone or stalactite, might be well introduced amongst these plants of the limestone country. One likes, in a house full of foreign plants, to see some of our own beautiful little neighbours, such as we have known all our lives, and sought for so many times in hedge-rows and shady copses, where they grow in hardly greater brightness.

Schemes for Filling a Three-Foot Glass Case during the Whole Year.

1. *For the Three Winter Months.*

Four evergreens, Myrtles or such like.

One "German Ivy" (*Ipomea hederæfolia*).

One Begonia, or large gracefully-shaped plant.

Two Geraniums, with pretty and sweet-scented leaves.

Four Ferns and Lycopodiums ; say *Pteris longifolia*, Maiden-hair, *L. denticulatum* and *L. stoloniferum*.

Four very small pots of red and white Van Thol Tulips.

Four pots of Hyacinths, surrounded with Scillas and Snowdrops, which begin to bloom so early.

Two pots of *Cyclamen Persicum*.

Two pots of Chinese Primroses, or of white Auriculas.

Four pots of white Crocuses, or single Anemones, scarlet, blue, pink, and white.

The four last-named sets should be had in succession ; planting about three or four sets of each, two sets at each time. They can easily be forced forwards a little, or kept back at last, if all should seem likely to come out together.

Begonia fuchsioides, *Fuchsia serratifolia*, China

Roses, Carnations, Geraniums, and Heliotropes, may also be had in blossom; and the beautiful little Heaths are very easy to make last for a great length of time, if they have sufficient air and are not allowed ever to become dry.

2. *For the Three Spring Months.*

Seven large Evergreen plants as before.

Four Ferns, including Maiden-hair and Lycopodiums.

Two Anemones, scarlet, white, or blue.

Four Hyacinths, at least two being white.

Two pots of Woodruff or Violets.

Two Lilies of the Valley.

Two *Deutzia gracilis*.

Two Mignonette.

Two crimson Roses.

One sweet Verbena.

When the Mignonette is in blossom, it may well displace some of the Ferns, if there is a deficiency of room.

Geraniums, Heliotropes, Verbenas, Nemophilas, Begonias, and Fuchsias, will also now be in bloom.

The sweet Verbena (*Aloysia*) is very tender when forced, and cannot bear a breath of wind, though it answers beautifully in the cases.

The Anemones need abundance of air and light.

Mignonette also requires much light, dryness, and



warmth to make it fragrant. The large-flowered or giant Mignonette is very much the best, especially for pots, and, above all, for training as Tree Mignonette.

3. For the Three Summer Months.

Seven usual Evergreens, changed if needful.

Four Ferns, &c., also varied, if required.

Four Roses, small red and common China.

Two white Fuchsias.

One small Passion-flower or Ipomea.

Two crimson Fuchsias (*globosa*).

Three Geraniums, fancy kinds.

One Heliotrope, trained.

One sweet Verbena (*Aloysia*).

One of the beautiful common white Bindweeds (*Convolvulus*).

There will not be space sufficient for all these plants in the case at one time ; but they will not continue nearly so long in flower in summer as they would in winter, and therefore require more frequently changing. Achimenes, Verbenas, scarlet and white Begonias, and Carnations, might take the place of any of the plants in the foregoing list.

As a general rule, I may observe that, while the brighter flowers are better in the winter and spring months, in summer the darker and brighter the foliage is, the more really refreshing to the eye will the plant-case appear.

4. For the Three Autumn Months.

The summer flowers will often endure far into the autumn.

Seven Evergreens, as before.

Four Ferns, as before.

Four small *Chrysanthemums*.

Four pots of single *Anemones*, especially the beautiful blue or scarlet, white or rose (seed sown in spring).

Four red and common China Roses (prevented flowering in summer).

Two *Heliotropes*.

Verbenas may still be in flower, and, generally, by cutting off summer flowers, some may be found to be now in full beauty.

Hermione and *Vesta* are very good *Chrysanthemums*, and the *Pompone* varieties are the best to have indoors. *Mignonette* can still be had blooming in pots from an August sowing, and *Tropæolums* are not quite over.

List and Prices of Good Plants.

MYRTLES.—From sixpence to half-a-crown each. Small-leaved, and broad-leaved blossoming kind, which trains so beautifully, even out of doors, on walls.

FERNS.—About one and sixpence to two and sixpence each. *Adiantum cuneatum*, *A. formosum*, *Davallia bullata*, and *D. dissecta*, *Pteris longifolia* and *P. serrulata*.

LYCOPODIUMS.—*Denticulatum*, *apoda*, and *stoloniferum*.

GERANIUMS.—Three to six shillings a dozen. White and pink Ivy, *Citriodora* and *Boule de Neige*; scarlet, *Tom Thumb*, *Trentham Gem*, *Reedii*, *Crystal Palace*, *Giganteum*, and *Géant des Batailles*.

PELARGONIUMS.—Various prices, from one shilling upwards. *Etna*, *Mont Blanc*, *Crimson King*, *Defiance*, *Pearl*, and *Desdemona*; and of the fringed kinds, *Dr. André* is extremely beautiful.

BEGONIAS.—Various, but I may name—*Fuchsioides*, coral red; *Discolor*, pink; *Dregei*, white; and *Coccinia*, red.

FUCHSIAS.—From three shillings a dozen. *Globosa*, *Duchess of Lancaster*, *Fairest of the Fair*, *Princess of Prussia*, *Tom Thumb*, and *Microphylla*, small.

HELIOTROPES.—From three shillings a dozen.

Light and dark ; Miss Nightingale is dark ; the light kinds are the best for climbers.

VERBENAS.—About the same prices. Helen and Teucroides (beautiful and sweet old pink), Defiance, Géant des Batailles (red), and Mrs. Holford (white).

ROSES.—Baronne Prevost, Aimée Vibert (noisette), white Banksia, Ruga, Ayrshire, Géant des Batailles, *Blairia* (one of the loveliest of climbers), small crimson China, Duchess of Sutherland, White Provence, and Maiden's Blush. Price, generally from twelve to eighteen shillings for a dozen plants.

OF BULBS, I will only mention very inexpensive kinds, both because for special sorts every one can best be guided by their own taste, and because, for a merely pleasant sight and scent, I think the new sorts seldom surpass the cheap old kinds that I can name. I copy the names from my own memoranda chiefly of those which I have tried ; but the prices are liable to vary from year to year.

SNOWDROPS.—Very large, three shillings a hundred.

CROCUSES.—Cloth of Silver, Versicolor, Purple Scotch, Cloth of Gold, and large yellow ; these are from two shillings to three shillings a hundred. Urania and David Rizzio, very large fine purple ; and Queen Victoria, La Neige, and Mary Stuart, white, are generally rather dearer.

DOUBLE TULIPS, for pots, sixpence a dozen of

the sweet little dwarf Van Thols ; Rex Rubrorum and Tournesol, a shilling ; and Imperator Rubrorum, crimson, La Candeur, white, and Overwinnaar, white and purple, are half a crown a dozen. Three of these, in a four or five inch pot, are ample to fill it well.

Of EARLY SINGLE TULIPS, which are infinitely to be preferred for their brilliant colours and graceful cup-shaped flowers, none seem to me superior to the little four-inch high red Van Thol, five shillings a hundred ; the rose and white Van Thol at ten shillings a hundred is, for the beauty of its slender white flowers gradually deepening into pink, quite the loveliest I know for pots in spring. Every one who sees them admires them, and they last a very surprising length of time. I have had them in bloom quite three or four weeks.

Other pretty kinds are Rosa Mundi, La Remarquable, and Pottebakker ; none exceeding in price two shillings a dozen.

The Florentina odorata is both sweet and pretty, half-a-crown a dozen ; but nothing, I think, is sweeter than a red Van Thol.

The SCILLA SIBERICA is, however, of all pretty little things one of those most to be recommended. Its price is two shillings a dozen, and from early in December to April, grown in whatever way it may be, in water, sand, or soil, it never seems tired of sending up its beautiful little flowers of enamel

blue. *Scilla verna* and *S. autumnale* are also very pretty.

NARCISSI.—Double Roman, Paper White, and the little Hoop Petticoat, are about three shillings a dozen ; and the first will bloom, with ordinary care, at Christmas.

HYACINTHS are really difficult to recommend, there is such a variety and so many are so lovely. For those, however, who do not know their own favourites by name, I can mention those in which no one can go wrong, as I doubt very much if many of the new and expensive kinds are at all superior, if equal, to them.

Single Hyacinths, all good for pots or sand. White—Grand Vainqueur, La Candeur, Victoria Regina, and Voltaire. Dark blue—Charles Dickens and Baron von Tuyl. Red—Felicitas, Robert Steiger, and Mons. de Fæsch. Pale yellow—La Pluie d'Or and Hermione. All these are generally from sixpence to ninepence each.

For a shilling each, there are Lord Wellington and Norma, pink ; Grandeur à Merveille and Tubeflora, blush ; Elfrida and Grand Vidette are clear white ; Duke of Wellington, Prince Alfred, and Grand Vidette, dark blue. All these bear large flowers in large spikes.

Double kinds are very useful, coming in rather later, but scarcely equal in gracefulness to the single

sorts. Of red, Grootvöorst, price sixpence, is the best I know. Acteur, Tempel van Apollo, Triumph Blandina, Jeanette, and Pallas are also very good; prices, from ninepence to a shilling each.

Of clear double white, Grootvöorstinn (one and sixpence each), La Tour d'Anvergne, La Deése, and Prins van Waterloo are very fine, eightpence to a shilling each. And of blue, Parelboot, Pourpre Superbe, and Lord Wellington, ninepence and sixpence each, are good, though rather heavy-looking flowers.

Border Hyacinths, exactly classed as to colour, are now sold at four shillings a dozen, in distinct shades of red, rose, pure white, French white, yellow, blue, dark blue, and purple. These are recommended to be arranged in geometrical patterns for spring gardens; and I think the Maltese cross would be a very pretty centre for a conservatory; the whole stand being filled up by the one cross on a ground of low-growing moss or Lycopodium.

The Miniature Hyacinths I had last autumn are about the prettiest things I ever saw for growing in dishes. Ami de Cœur and Diebitsch Sabaskanski, rose-coloured; and La Candeur and Grand Vainqueur were most exquisite pure white. The price of these was, last autumn, only three shillings a dozen.

ACHIMENES coccinea, picta, and the pretty longiflora, at about one and sixpence a pot.

ANEMONES.—Single scarlet, Apennina, and mixed,

are about a shilling a dozen. I only mention single sorts, because the others, like many double tulips, are little suited to be grown in pots.

ARUMS.—*Richardia* or *Calla Æthiopica*, sixpence to a shilling each.

CYCLAMEN PERSICUM.—White, tipped with purple, and often very sweet, is about a shilling, as are also the beautiful Japan Lilies—*Longifolium* being less, five shillings a dozen; *Punctatum* more, three and sixpence each.

The *LILIUM CANDIDUM*, or common white lily, is three shillings a dozen; and the *Belladonna* lily (which is also well worth growing, if not too much disturbed) is five.

Some of the *Gladioli* are very beautiful, and the white and pink or purple *Floribundus*, and the rose-coloured *Ramosus* are at a low price; generally from two to three shillings a dozen (three being planted in a six-inch or one in a four-inch pot, in March, if not wanted early).

The beautiful *GUERNSEY LILY* should be ordered in September. It grows well in sand or moss, and blossoms very shortly after its arrival, being already in a far advanced stage of growth. Its price is about five shillings a dozen.

LILIES OF THE VALLEY are generally four shillings a dozen pots; but when far advanced, are of course increased (if in early spring) in price.

•

I have been very particular in writing about the bulbs and tuberous-rooted plants, because they are such a charming branch of the spring indoors garden; and, indeed, at any time of year, whatever bulbs are in blossom are almost sure to be, like the lovely lily tribe of the summer and autumn months, amongst the fairest of the season's flowers. And so that they have air, and light, and water, after they once begin to grow, their treatment is easy enough for any one to manage.

List of Useful Implements.

A PLANT-CASE, three feet long by eighteen inches high and eighteen inches wide, glazed with five large panes of glass (ends, top, and sides), and fitted with a zinc-lined trough six inches deep, upper pane and one side removable at pleasure, painted oak, and grained; price thirty-five shillings. If made in a more ornamental manner, as with white enamel and gold, the price would be higher. It could also be made very handsome in polished oak, or maple; but rosewood, satin-wood, or anything veneered would be objectionable; the thin veneers readily starting with damp inside.

A FORCING-CASE, four feet by two feet, large enough to supply any reasonable conservatory with plants, holding at least sixty four-inch pots, would be, with heating apparatus, brass water-cock, pipe, &c. complete, four guineas. The same remarks, as to ornamental work, apply equally to this as to the plant-case. Mine were excellently made, by T. Walker, 5, Regent Street, Brompton.

A PLANT-STAND, made of wood, to hold sand and moss, the tray being about four or six inches high, in white and gold, would be three guineas, if three feet six inches in diameter; or it could be made in a

much plainer style, from twenty-six shillings upwards—or of a smaller size.

FLOWER-BOXES, oak painted, or others in stone colour, vary from three to five shillings each. They should be made exactly the length of the window they are meant for, and no holes made in them as usual for Mignonette boxes. From four to six inches high and seven or eight inches wide is a good proportion, economizing space by admitting a double row, if the pots are small.

HANGING-BASKETS are to be had at the Asylum for the Blind in St. George's Fields, London.

FLOWER-POTS are two shillings a cast, varying from sixty to sixteen in number. "Thumbs," which are the smallest size, are about three inches wide at top; large sixties, four inches; forty-eights, five and a half inches; thirty-twos, six and a half inches; and sixteens, nine inches in diameter. These prices are those mentioned by Messrs. Adams, Kilns, King's Cross, N.

MINTON'S TILES, eight inches square, are from one shilling to two shillings and sixpence each. They are made in green, as well as blue, and red, and white, and also in a variety of colours mixed; the latter being the more expensive style. Terra-cotta is, also, a most excellent material for garden and conservatory use.

BELL-GLASSES are to be had at two inches diame-

ter for threepence halfpenny each, increasing in size an inch, and in price a penny, to five inches in diameter, at sixpence halfpenny; they advance at the rate of twopence an inch afterwards, up to a twelve-inch diameter, which is one shilling and ninepence, and quite as large a size as most amateurs would want for general use in such small gardens. They are made, however, up to sixteen inches, at three shillings and sixpence, and to twenty inches, at seven shillings each, and are often very useful for covering plants placed outside, and for preventing injury by rain to flowers.

FLOWER-DISHES are of six, nine, and twelve inches in diameter; price one shilling, one shilling and sixpence, and two shillings and sixpence each.

PROPAGATING-GLASSES, fitted on a hyacinth dish, make the most cheap and charming of little fern shades; and they do equally well for Wood-Sorrel and other English wild plants.

PANES of good thick glass are about threepence to fourpence the square foot.

FRIGI DOMO canvas is a most excellent covering for glass or frames. It is two yards wide, and eighteen pence a yard, or double the width, at three shillings.

NETTING is much cheaper, and keeps off very slight spring frosts, as well as soot, and dust, and birds, either from roof-gardens, frames, or beds;

and when the conservatory windows are covered with it when open, it excludes effectually the same injurious substances. This can be bought from any seedsman.

SILVER SAND is eighteen pence a bushel, or sixteen shillings a ton ; but being so heavy and troublesome, is sold by seedsmen at an enormous price—four shillings a bushel often. Peats, sphagnum (for orchids), and loam, can also be obtained cheaply.

SMALL BRASS SYRINGES are about ten shillings each ; and there is a new watering-pot called “the Glenny,” which is easier than the old kind to use. For ladies I recommend a very small watering-pot, with a long, brass screw spout, and a fine rose screwing on and off.

GARDEN SCISSORS, to hold the flowers when cut, are very useful. They are about three shillings a pair.

A STEEL TROWEL is also desirable, and a sharp penknife for making cuttings.

DUMONT'S INSECT POWDER is quite invaluable for use against the green fly, which is so annoying, and often so injurious. The little gutta-percha balls in which the powder is done up are to be had at any oilman's, price sixpence each, one ball lasting for several months.

A wide-mouthed bottle for drying or hardening cuttings, and an ivory dibble for planting them, are

useful, and a few little squares of glass, and some sheets of tissue paper or thin muslin, are often wanted to lay over pots in which they are striking, or in which delicate seedlings are just peeping up.

Thus ends the list of very desirable things for a first beginning. Many, however, of these may be dispensed with, as they often are by those far past beginnings; and even those that are requisite may often, with a little ingenuity, be easily replaced by very simple substitutes.

No one who really cares for flowers should fail to be on the look-out for new ideas about them. In walking, or in driving, or in making visits, one often sees some peculiarly pretty combination or some remarkably thriving plant, and by noting its name and aspect, it is wonderful how much and how quickly, even in London, one learns about plants. In reading, again—whether gleanings from chemical and physiological books, from works of travel, &c.—it is surprising how many valuable hints may be collected, and how many interesting little experiments may be found suggested.

THE END.



